# Remedial Action Work Plan

P-1 Plume Area
Former Emerson Street Landfill
NYSDEC Site #828023

Location:

1700 Emerson Street
Rochester, New York 14606

Prepared for:

City of Rochester
Division of Environmental Quality
Room 300-B
Rochester, New York 14614

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## CERTIFICATION

*"I* Daniel P. Noll *certify that I am currently a NYS registered professional engineer and that this Remedial Action Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10)."*


| 081996 | 03.15.2021 | |
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| NYS Professional Engineer # | Date | Signature |

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# 1.0 INTRODUCTION

This Remedial Action Work Plan (RAWP) was developed for the selected remedy (as defined in the Record of Decision (ROD)) to address the P-1 Plume located at 1700 Emerson Street (formerly 1655 Lexington Avenue) in the City of Rochester, Monroe County, New York on the Former Emerson Street Landfill (FESL). Figure 1 illustrates the location of the FESL within the City of Rochester and Figure 2 illustrates the 1700 Emerson Street parcel within the FESL. This RAWP was completed in accordance with New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) *Technical Guidance for Site Investigation and Remediation* ("DER-10"). A Remedial Investigation (RI) was conducted from 2012-2017 which built upon previous investigations completed at the Site in the late 1980s, 1994 and 2001. LaBella completed a Feasibility Study dated April 2019. The NYSDEC issued a Proposed Remedial Action Plan (PRAP) dated February 2020 and a ROD dated March 2020. The selected remedy as detailed in the ROD includes the following:

a) Remedial Design
b) Site Cover
c) Vapor Mitigation
d) Zero Valent Iron (ZVI) Permeable Reactive Barrier (PRB)
e) Monitored Natural Attenuation (MNA)
f) Institutional Control
g) Site Management Plan

The City entered into an Order-On-Consent with the NYSDEC in 2009. A portion of the FESL is designated as Inactive Hazardous Waste Disposal Site (IHWDS) Site #828023. A majority of the FESL has been delisted from the IHWDS; however, three (3) parcels (1660, 1700, and 1740 Emerson Street) comprising approximately sixteen (16) acres are currently listed as a Class 3 site on the NYSDEC Registry of Inactive Hazardous Waste Disposal Sites (refer to Figure 2). A "3" classification indicates a site "at which contamination does not presently constitute significant threat to public health or the environment." The apparent source area and a majority of the contamination is at the 1700 Emerson Street parcel which is the largest of the three (3) IHWDS parcels and is owned by the City. As indicated in the ROD, the solvents at the 1700 Emerson parcel are the primary contaminants on-site impacting groundwater and soil vapor.

## 1.1 *RAWP Objective*

The objective of the RAWP is to describe the proposed remedy and provide details of remedial actions to be implemented at the FESL that: (1) adequately mitigate potential threats to human health and the environment; (2) are consistent with the remedial objectives for the site; and (3) are consistent with the future contemplated use of the site.

## 1.2 *RAWP Outline*

This plan contains 13 sections.

- Section 2. includes a description of the Site and history.
- Section 3. summarizes previous investigation findings used to complete an analysis of alternatives and form the basis for remedy selection in the ROD.
- Sections 4. and 5 describe Standards, Criteria and Guidelines (SCGs) and Remedial Action Objectives (RAOs), respectively.
- Section 6 describes the finding from a Design Phase Investigation (DPI) that included additional monitoring well installations and groundwater analysis and groundwater treatability testing.
- Section 7 presents design details of the selected remedy
- Sections 8 and 9 describe the engineering and institutional controls to be implemented and describes waste handling and disposal practices, respectively.

- Sections 10, 11, and 12 provide plans for Site Health and Safety during work activity, community air monitoring requirements, and data quality control, respectively.
- Section 13 describes the schedule for remedy implementation.

## 2.0 SITE DESCRIPTION AND HISTORY

The FESL consists of approximately 250-acres of land comprised of 45 individual parcels of which 7 are owned by the City of Rochester (refer to Figure 2 for FESL footprint and summary of parcels). The remaining 38 parcels are owned by 25 private owners. The FESL is predominantly occupied by industrial and commercial properties (15 and 20, respectively based on use codes). In addition, City use codes indicate 5 parcels as vacant land, one parcel as unknown (McCrackanville Street) and 4 parcels are listed as community/public service (one of which is a school, Edison Tech). The surrounding area generally contains industrial and commercial properties. Residential properties are also located to the northeast. The three (3) parcels included in the IHWDS (1660, 1700, and 1740 Emerson Street) are zoned M-1, Industrial District.

Prior to FESL landfilling operations, the area was primarily vacant and relatively flat lying, with a wetland located in the north-central portion of the site. As a result of landfilling activities, the FESL site has been elevated approximately 15+ feet above the surrounding area. An industrial park presently occupies most of the FESL site, including larger facilities and various smaller industrial/commercial facilities, as well as several undeveloped parcels and undeveloped land on otherwise developed parcels.

The FESL was operated by the City as a landfill beginning between sometime in the 1940s until 1971. The landfill was used to dispose of ash derived from the incineration of municipal solid waste at the City's incinerators which were located south of Emerson Street and east of Colfax Street on the FESL. Ash fill and construction and demolition debris were the primary waste materials placed in the landfill. Landfilling began south of Emerson Street and gradually expanded northward and westward to include areas between Emerson Street, Lexington Avenue, Colfax Street and Lee Road, and south of Emerson Street to the east and west of Colfax Street. Fires due to incomplete incineration of municipal solid waste and open burning of refuse reportedly occurred in the late 1960s and early 1970s due to operational problems with the incinerators. Fill during this timeframe was north of Emerson Street. In May of 1971, the City's incinerators were shut down; however, un-incinerated municipal refuse continued to be placed north of Emerson Street until August of 1971. In August 1971, refuse disposal was ceased at FESL and disposal shifted to a different county landfill. In 1971, the landfill was officially closed and a contract for the closure of the eastern half of the landfill specified 2 feet of cover material (preferred to be a sandy loam) to be placed and compacted to 30% in 1 foot lifts. In September 1971, a contract was awarded for the closure of the western portion of the landfill. Since closure, portions of the Site have been developed by various private parties.

The general types of wastes encountered during investigations at the FESL site include the following:

- Municipal Incinerator Ash - generally consisting of ash, cinders, charred refuse, glass and metal slag. Most ash observed in site investigations appears to be fly ash and bottom ash (clinker) from the municipal solid waste incinerators. This generally consists of soil and rock fill with traces of plastic, metal, wood, concrete, bricks, tiles, and asphalt. Construction and demolition debris observed in past investigations generally fits the definition of construction and demolition debris contained in NYSDEC's Part 360. Construction demolition debris fill is common in areas adjacent to current and former roadways on site, and particularly in the lobe of fill south of Emerson Street and east of Colfax Street.
- Soil and Municipal Refuse - This material generally consists of silty sand cover material and disposed, un-incinerated municipal refuse.

- Low-activity Radioactive Waste - This material was encountered in a small area south of Emerson Street and consisted of a sludge-like waste material associated with glass lenses. The sludge was found to contain low levels of radioactive thorium. This material was primarily encountered in a relatively small area in the southwest portion of the FESL and was associated with incinerator ash and refuse fills. This material was removed by Sevenson Environmental Services on behalf of the City of Rochester.
- The majority of the existing landfill has a soil cover. Cover ranges in thickness from 0 ft. up to approximately 6 ft. Cover materials generally consist of topsoil with grass, gravel, asphalt, or glacial till-derived sandy silt.

The FESL can be separated into four general geographic regions, or quadrants, based on the landfill waste composition aerial photograph interpretation of landfill deposition, and historic analytical data. Refer to Figure 3 for quadrant locations. A summary of the types of waste at each quadrant is as follows:

*Quadrants A and B (North of Emerson Street, East of Lee Road, West of Colfax Street):*

Portions of Quadrants A and B were filled during the 1970's, the last years of the landfill's operational life. At this time the incinerator was no longer operating properly, resulting in un-incinerated putrescible waste being deposited in the landfill during that period. These portions of the landfill are characterized by thicker fill, higher percentage of potentially putrescible solid waste and less incinerated ash, and higher landfill gas flux at the surface relative to other FESL areas sampled. These areas are characterized by landfill gas flux measurements between 100 and 1200 µg/$m^2$-minute, and/or soil gas methane concentrations above 5,000 ppm. In addition, these quadrants have also been characterized with CVOC contamination in soil gas, soil, and groundwater. Quadrant A is distinguishable from Quadrant B by a large area of documented CVOC contamination present in Quadrant A. The listed IHWDS portions of the landfill (i.e., 1660m 1700 and 1740 Emerson Street) are located within Quadrant A.

*Quadrant C (South of Emerson Street, East of Colfax Street):*

Quadrant C is characterized by thinner fill, lower percentage of potentially putrescible solid waste and more incinerated ash, and intermediate landfill gas flux at the surface relative to other FESL areas sampled. This area is characterized by landfill gas flux measurements below 50 µg/$m^2$-minute. It has been hypothesized that the gas detections may be related to the presence of organic rich marsh-derived soils at depth in this area, as opposed to landfill related gas. There is also an area of CVOC contamination in this quadrant.

*Quadrant D (South of Emerson Street, West of Colfax Street):*

Quadrant D is characterized by thinner fill, lower percentage of potentially putrescible solid waste and ash that was more efficiently and completely incinerated, and lower landfill gas flux at surface relative to other FESL areas sampled. This area is characterized by landfill gas flux measurements between 50 and 200 µg/$m^2$-minute. In addition, there are several small areas of CVOC contamination in this quadrant, which may be the result of post-landfill industrial activity as opposed to landfill operations. State and federal wetlands are also located within this quadrant.

## 3.0 PREVIOUS INVESTIGATIONS

Previous investigations have been conducted at the FESL since the 1980s, which includes the most recent Remedial Investigation (RI) for the P-1 Plume that was conducted in accordance with the *Remedial Investigation Work Plan: P-1 Plume Area* dated November 2012 and five (5) subsequent addenda. The purpose of the RI was to define the nature and extent (areal and vertical extent) of VOCs, specifically

CVOCs in soil, fill, groundwater and the bedrock matrix in the vicinity of the P-1 Plume. Previous investigations have identified CVOCs including trichloroethene (TCE), tetrachloroethylene (PCE) and breakdown compounds (mainly vinyl chloride and cis-1,2-dichloroethene) in groundwater at concentrations up to 69 parts per million (ppm) total CVOCs in groundwater. Previous investigations defined the P-1 Plume as depicted on Figure 3 (plume extent as defined at the time of the RI). Refer to the RI Report by LaBella and GEI dated June 2018 for details. A *Pilot Test Monitoring Report* and *Feasibility Study* dated April 2019 were completed to evaluate the final remedy for the Site.

In addition to investigation reports, there are two (2) current guidance documents applicable to Site development on the FESL:

- *Former Emerson Street Landfill Sub-Slab Ventilation Guidance Document Update 2013* by LaBella dated October 2013
- *Guidance for Waste-fill Management During Site Development on the Former Emerson Street Landfill* by LaBella dated October 2013

The following subsections include a summary of recent relevant reports; a more detailed review can be obtained from each individual report.

## 3.1 *Soil Vapor Intrusion*

The Order-on-Consent initially required the development and implementation of a soil vapor intrusion (SVI) Work Plan. The SVI Work Plan was developed, approved by NYSDEC and implemented from 2009-2011. The work included soil and groundwater sampling across the FESL as well as SVI assessments at buildings on the FESL. The findings of the initial SVI assessment were detailed in a report titled *Soil Vapor Intrusion Assessment Report: Data Review, Site Screening & Site* Prioritization dated June 2011 (hereinafter referred to as the "*2011 SVI Assessment Report"*). The 2011 SVI Assessment Report identified several buildings at a risk of SVI due to the FESL. Subsequently, a work plan titled *Soil Vapor Intrusion Investigation Work Plan: Phase II Parcel Specific Investigation* (hereinafter referred to as the "*SVI Work Plan"*) was submitted to the NYSDEC and NYSDOH in April 2013 to complete SVI sampling within the buildings determined to be at high risk for SVI due to the FESL. The NYSDEC and NYSDOH provided comments to the SVI Work Plan on April 23, 2015 and the SVI Work Plan Work Plan was resubmitted in January 2016 to address the NYSDEC and NYSDOH comments. The SVI Work Plan was implemented beginning in March 2016 and two (2) of the seven (7) buildings tested required mitigation; 575 Colfax Street and 1740 Emerson Street. It should be noted that only the 1740 Emerson Street building was determined to require mitigation as a result of CVOCs due to the FESL (i.e., the P-1 Plume). The owners of 575 Colfax Street and 1740 Emerson Street were notified about SVI conditions. Subsequently, mitigation systems were installed/ activated in the buildings at 575 Colfax Street and 1740 Emerson Street and Construction Completion Reports have been completed.

The findings of the SVI Investigation were detailed in a report titled *Soil Vapor Intrusion Investigation Report* dated March 2018. For properties where SVI testing was completed and it was determined that SVI mitigation was not warranted, property-specific reports were developed, approved by the NYSDEC and NYSDOH, and provided to each property owner. Owners of properties that did not warrant SVI testing were notified that no further work was required due to the FESL. The above reports should be referenced for additional details regarding SVI at the FESL. The NYSDEC ROD stated "*The limits of soil vapor intrusion were identified, and no further actions are required at the remaining properties."*

## 3.2 *Remedial Investigation*

The recent RI consisted of installation of six (6) overburden, sixteen (16) shallow bedrock and two (2) deep bedrock groundwater monitoring wells, advancement of thirty-three (33) overburden soil borings, twenty-eight (28) test pits, twenty-one (21) membrane interface probe (MIP) borings, four (4) pump tests to evaluate hydraulic conductivity, downhole geophysics, and associated sampling of soil/ fill, overburden and bedrock groundwater, and bedrock. Figure 4 illustrates the locations of the RI soil borings and wells. A summary of the RI findings is provided in the following subsections.

### *3.2.1 Nature and Extent of Contamination*

The RI defined the P-1 Plume as shown on Figure 3 (based on data at the time of the RI). The greatest concentrations of CVOCs in groundwater to date have been detected in the top 3-ft of bedrock groundwater. Specifically, monitoring wells LAB-DBW-02, LAB-SBW-05, LAB-SBW-09, and P-1 all contained greater than 15 ppm total CVOCs in at least one sampling event. The top 3-ft of bedrock also contains the highest concentrations of CVOCs in the rock matrix within the source area. Concentrations of CVOCs in bedrock and bedrock groundwater generally decrease with depth within the source area.

*Groundwater:* The source area of CVOCs in groundwater (encompassed by 2013-SB-01, LAB-OBW-01, 2016-SB-19, 2016-SB-20, LAB-DBW-01, LAB-SBW-02, LAB-SBW-09 and LAB-SBW-10) is approximately 16,000 sq. ft. Based on the reduction of CVOCs from 2000 to 2017 including an 83% decrease in total CVOCs in the P-1 well from 54.4 ppm to 8.9 ppm, and a 77% decrease in total CVOCs in GMX-MW-3 (downgradient) from 5.3 ppm to 1.2 ppm, natural attenuation of the plume is occurring.

*Soil Vapor:* A FESL-wide SVI assessment was conducted from 2009-2017 documented in the 2011 SVI Assessment Report dated June 2011 and SVI Investigation Report dated March

2018 and identified only one (1) building with impacted soil vapor from a FESL-related source. The south adjacent building to the Site (1740 Emerson Street) has been mitigated to prevent SVI related to the FESL. The City of Rochester also has Institutional Controls in-place through their Building Information System that flags all properties within the FESL for further review by the City Department of Environmental Quality. The Institutional Control prevents newly constructed buildings, designed for occupancy, to be occupied without being assessed or mitigated for SVI.

*Soil/ Fill:* Un-incinerated fill material is generally present in the source area beginning at depths ranging from 2-8-ft bgs, with ash present at greater depths. Total CVOCs have been detected in soil/fill at concentrations up to 766 ppm in LAB-OBW-01 at 23-24-ft bgs and total BTEX has been detected in soil/ fill at concentrations up to 3,040 ppm in 2016-SB-20 at 18-19-ft bgs. The greatest concentrations of CVOCs are present directly above bedrock, generally at depths greater than 20-ft bgs in an approximate 8,000 sq. ft. area (approximately 1,800 cubic yards).

*Bedrock:* The uppermost 3-ft of bedrock (elevation 518 to 521 fmsl) referred to as the A-Zone) contains the highest concentrations of CVOCs sorbed to the rock matrix in the source area. The concentrations of CVOCs in the A-Zone bedrock matrix are suggestive of a DNAPL source in LAB-SBW-02, LAB-SBW-09, LAB-SBW-10, and LAB-DBW-01. Concentrations of CVOCs generally decrease with depth in the source area. Concentrations of CVOCs in bedrock wells downgradient of the source area (i.e., LAB-SBW-15 and LAB-SBW-16) were non-detect (ND) to lower ppb concentrations) in the A Zones but were detected in the Upper B (elevation between ~512 to 518 fmsl)/B Zone (508 to 512 fmsl). Impacts in bedrock are assumed to be approximately 60,000 sq. ft. and vary in elevations across that area from the A Zone to the B Zone. An estimated 18,000 cubic yards of bedrock impacts are present in the source area.

A summary of the approximate distribution of contaminant mass is included in the following table and further detailed below.

**Distribution of Contaminant Mass in P-1 Plume Study Area**

| Zone | Soil | | Bedrock | | Groundwater | | Estimated Total Mass by Zone | |
|---|---|---|---|---|---|---|---|---|
| | Mass (lbs) | % of total Mass | Mass (lbs) | % of total Mass | Mass (lbs) | % of total Mass | Mass (lbs) | % of total Mass |
| Overburden/ Fill | 232 | 11.78% | -- | -- | -- | -- | 232 | 11.78% |
| Bedrock A Zone | -- | -- | 1,233 | 62.62% | 5 | 0.25% | 1,238 | 62.87% |
| Bedrock B1 Zone | -- | -- | 491 | 24.94% | 3 | 0.15% | 498 | 25.29% |
| Bedrock B Zone | -- | -- | | | 4 | 0.20% | | |
| Bedrock C Zone | -- | -- | 0.10 | -- | 1 | 0.05% | 1 | 0.05% |
| Bedrock D Zone | -- | -- | <0.01 | -- | <0.01 | 0.01% | <0.01 | 0.01 |
| **Total Mass (lbs)** | **232** | **11.78%** | **1,724** | **87.56%** | **13** | **0.66%** | **1,969** | **100%** |

Notes:
Mass calculations estimated based on concentration contours developed using modeling software.
Assumptions:
Mass of bedrock = 165 lb/ ft3
Mass of soil = 100 lb/ ft3
Porosity (secondary) of bedrock 10%

The estimated total mass of CVOCs in soil/ fill is 232 lbs (or 11.78% of total mass), groundwater is 13 lbs (or 0.66% of total mass), and bedrock is 1,724 lbs (or 87.56% of total mass). A majority of contaminant mass is in bedrock as opposed to the overburden native soil/ fill material. Calculated porewater concentrations exceed the solubility limits for parent compounds PCE and TCE in bedrock in several locations (LAB-DBW-01, LAB-SBW-02, LAB-SBW-05, LAB-SBW-09, and LAB-SBW-10), which indicates DNAPL source material is suspected, even in the absence of visual confirmation. The significance of these findings relates to contaminant diffusion into the bedrock matrix and the likely presence of DNAPL in tight, closed-ended fractures. Under these situations, back diffusion from the bedrock matrix to groundwater will pose a long-term source of groundwater contamination. CVOCs are the primary contaminant impacting groundwater and CVOCs are migrating off-site with the shallow bedrock groundwater bearing zone. It should be noted that petroleum related constituents (benzene, toluene, ethylbenzene and xylenes (BTEX)) have also been identified; however, these compounds are not migrating and are attenuating within the limits of the property.

Although CVOCs are the primary contaminant CVOCs other contaminants are present at the Site. The ROD stated the following in relation to other constituents: *"Perfluorinated compounds (PFAS) were also detected above screening levels site wide. Due to the nature of the landfill material, a specific source of could not be identified and PFAS are most likely present throughout the landfill. Metals impacting groundwater are generally minor in extent and there is not a distinct source area within the landfill; therefore, metals are not considered as site specific contaminants of concern."*

### *3.2.2 Overall Conceptual Site Model*

The following presents the overall conceptual model for the Site. This conceptual Site model is based on the RI recently completed and previous investigations.

During the last years of filling at the FESL, it appears some non-municipal waste was placed in the landfill in the vicinity of P-1 and more specifically in the area encompassed by 2013-SB-01, LAB-OBW-01, 2016-SB-19, 2016-SB-20, LAB-DBW-01, LAB-SBW-02, LAB-SBW-09 and LAB-SBW-10. This is supported by a review of aerial photographs, test pits, high concentrations of impacts in the overburden/ fill on top of bedrock, the presence of the greatest concentrations of CVOCs in A Zone groundwater, and bedrock matrix samples.

NAPL and/or high concentrations of VOC impacted groundwater has since migrated laterally and vertically from this source area. Based on rock matrix analysis, impacts migrated to the southeast to LAB-SBW-05 in the A Zone and Upper B Zone. Impacts (not NAPL) further migrated laterally to the west and southwest (LAB-SBW-13 and LAB-SBW-14) and to the south (LAB-SBW-15 and LAB-SBW-16) into the B Zone. This is evidenced by greater concentrations of CVOCs in the B Zone than in the A Zone in these locations. Impacts have not migrated at significant concentrations laterally to the southeast or vertically to the C or D Zones.

As the impacts have migrated downward vertically and laterally, natural degradation has been occurring. This is evidenced by greater concentrations of daughter compounds than parent compounds in bedrock groundwater. In addition, the source edge bedrock samples have a higher proportion of daughter compounds than the samples in the source area. Furthermore, the overall P-1 Plume area has decreased since 2000 and concentrations of total CVOCs have declined. Refer to Figure 3 for extent of the P-1 Plume (at the time of the RI). The source area of CVOCs in groundwater (encompassed by 2013-SB-01, LAB-OBW-01, 2016-SB-19, 2016-SB-20, LAB-DBW-01, LAB-SBW-02, LAB-SBW-09 and LAB-SBW-10) is approximately 16,000 sq. ft. It should be noted that the plume extent has been modified based on the Design Phase Investigation (refer to Section 6).

In accordance with the EPA Technical Protocol Table 2.4, an evaluation that was performed as part of the RI, there is *"Adequate Evidence for anaerobic biodegradation (reductive dechlorination) of chlorinated organics".* Additionally, compound-specific isotope analysis (CSIA) results indicate natural transformation of parent material (PCE and TCE) to daughter products is occurring. The mechanism for transformation was evaluated using Bio-Trap samplers. Analytical results indicate the presence of DHC (Dehalococcoides) and DHBt (Dehalobacter) in population ranges capable of natural biodegradation of CVOCs in the P-1 study area; however, biodegradation appears to be incomplete prior to regulated contaminants leaving the property boundary. This is supported by the fact that \ cis-1,2-dichloroethene (751 ug/L) and vinyl chloride (305 ug/L) were detected in GMX-MW-3 downgradient of the source area proximate to the eastern property boundary in May 2017, and parent compounds were not detected.

### *3.2.3 Exposure Assessment*

On-Site and off-Site exposure assessments were completed in the RI. Based on the on-Site exposure assessment, only on-Site workers have the potential to come in contact with contaminated media. On-Site workers are required to be 40-hour OSHA HAZWOPER trained and work in accordance with a health and safety plan. The Site is currently vacant land. Any future on-Site development would be managed in accordance with the *Waste Fill Management during Site Development Guidance Document*. In addition, an Institutional Control is in place which prohibits permit issuance on the FESL in the City's Building Information System without City Division of Environmental Quality review. The use of groundwater in the City is prohibited by City code. A completed on-Site exposure pathway does not exist for contaminated media as long as subsurface disturbances are properly managed.

Off-Site human health exposures have been assessed via an extensive SVI investigation and mitigation of impacted buildings. A complete off-Site exposure pathway does not currently exist as long as institutional controls remain in place and the mitigation system installed at 1740 Emerson Street remains in operation. The *Waste Fill Management during Site Development Guidance Document* will be implemented during subsurface work on the FESL and the *FESL Sub-Slab Ventilation Guidance Document* will be implemented during future construction of buildings on the FESL. The City maintains institutional controls for the Site and FESL by flagging all FESL properties in the City Building Information System. The use of groundwater in the City is prohibited by City code.

## 3.3 *ZVI Injection Pilot Test*

A pilot test was conducted in 2017 to evaluate two (2) different injection methods for construction of a ZVI PRB in bedrock; pneumatic injections and a blast enhanced bedrock trench. Micro-scale ZVI (Hepure Ferox Flow) was utilized for both pilot test locations. The pilot tests were located just to the north of LAB-SBW-15 and LAB-SBW-16 in order to use these wells for monitoring purposes and site topographic considerations. Both ZVI injection methods proved successful in placement of ZVI into bedrock fractures as observed by decreasing concentrations of CVOCs in bedrock groundwater. The pilot test was detailed in a *Pilot Test Monitoring Report* dated April 2019. The pilot test concluded and recommended the following:

- ZVI was effective in reducing CVOCs in groundwater associated with the P-1 Plume. The injection tests found that ZVI can be injected at adequate volume and dosing within bedrock Zones A and B which contain a majority of the contaminant mass in both the bedrock matrix and groundwater flowing through fractures. .
- Temporary increases in the concentration of CVOCs were observed with both ZVI placement approaches. The initial increase in total CVOCs may be due to several factors:
    - Displacement of DNAPL blebs: Previous drilling work indicated a potential for localized increases of CVOC concentrations in bedrock groundwater following drilling activities, it is was assumed that DNAPL blebs present in bedding plane and vertical fractures were mobilized during borehole advancement during drilling. Following equilibration of physical and chemical conditions, CVOC concentrations typically re-equilibrated after a few months.
    - Release of CVOCs from the bedrock matrix: Sample analyses of rock core samples from LAB-SBW-15 and LAB-SBW-16 (including other well locations in the source area) indicated CVOCs diffused from groundwater into the bedrock porosity through matrix diffusion processes. Enhanced fracturing of the bedrock either by pneumatic or blasting methods increases the surface area of the bedrock thereby allowing back diffusion processes to occur more rapidly and increase CVOC concentrations in bedrock groundwater local to the disturbed area. The release of additional mass to the groundwater causes a temporary increase in CVOC concentration which re-equilibrated after a few months.
- The full-scale PRB should consider impacts from back diffusion from the bedrock matrix. As such, the full-scale PRB was recommended to be placed downgradient (south) from the pilot test location.

<u>Method Specific Conclusions/Recommendations</u>

The following ZVI method placement specific conclusions/recommendations are provided:

ZVI Placement in a *Blast Enhanced Bedrock Trench*

- PRB Area – Single shot hole detonations assumed a minimum effective radius of enhance fracture of 2.5 ft.(i.e., 5-ft. diameter) based on a calculated powder factor by the licensed blaster. The ZVI was observed in all locations within the trench with the exception of ML-7D. It should be noted that the shallow monitoring intervals of ML-6S and ML-7S contained significant ZVI (over 3 ft.); however, ML-8S did not have a measurable difference for the depth to bottom. Figure 4A illustrates the location of the Pilot Test Injection Points (IP) and the estimated area of the Pilot Test PRB. In addition, Figure 5 illustrates a revised plume extent based on data obtained during the Design Phase Investigation (refer to Section 6), the Pilot Test area and the proposed PRB. The material was easily placed within the trench via one injection point indicating an effective 'radius' of influence of at least 30-ft. (note, radius for the blast enhanced bedrock trench refers to the distance the material was observed to be placed laterally within the trench and is limited to the length and width of blasted bedrock trench itself). However, based on the significant amount of ZVI observed in the shallow intervals on either side of the injection point (i.e., ML-6 and ML-7) and a lack of significant ZVI in ML-8, a more conservative radius of influence of 20 to 25 ft. would be recommended for this approach.

- PRB Thickness – The RI Report estimated a bedrock groundwater flow velocity of 2 to 3 ft/day based on a Darcy flow calculation. The blast enhanced bedrock trench pilot test utilized a single row of blast points with an estimated 5-ft. diameter. As such, the residence time of the water flowing through the PRB was estimated to be approximately 1.7 to 2.5 days for purpose of the Pilot Study and ZVI Treatability column tests. Based on the available data, complete degradation appears to be occurring (as noted by increasing concentrations of ethane and ethene in LBA-SBW-15); however, some CVOCs were still present in LBA-SBW-15. This may be a function of inadequate residence time; however, it may also be due to contaminant mass in the bedrock matrix in the area of LBA-SBW-15. As noted above, a full-scale PRB was recommended to be completed further south of the pilot PRB. This should address the potential back diffusion issues in the area of the current PRB. In this event, LaBella would recommend that the blast enhanced bedrock trench PRB utilize the current thickness (with additional dosing noted below). Monitoring on the downgradient side would determine if any areas require re-assessment.

- Dosing Rate – This approach utilized a dosing rate of 6% (mass of ZVI amendment to mass of bedrock). There was no 'day-lighting' of material observed and excessive back pressure was not incurred during the injection intervals. Although ZVI was observed in all intervals, except ML-7D, additional ZVI could likely have been placed. A full scale injection via a blast enhanced bedrock trench could utilize a higher dosing rate. Although the actual amount that could be placed may vary, for planning purposes a dosing rate of 8% or 10% is considered feasible.

*Pneumatic Injection*

- PRB Area – The pneumatic injection work assumed a 15-ft. radius of influence for each injection point. The injection work around IP-4 and IP-5 appeared to influence the multi-level wells nearest these locations (ML-1 and ML-2); however, IP-4 did not appear to influence locations to the west (IP-3 and ML-4) to the same degree as to the east. In addition, ZVI was not observed in the intermediate and deep intervals at ML-3 (i.e., ML-3I and ML-3D) which is only 8 ft. north of IP-3. Additionally, ZVI was not observed in ML-5 intermediate interval (i.e., ML-5I). This variable influence is expected in a fractured bedrock zone. Based on this, some overlapping of intervals would be recommended for a full-scale pneumatic injection. This could include a second row of injection points off-set from the initial row.

- PRB Thickness – The RI Report estimated a Darcy-calculated groundwater velocity of 2 to 3 ft/day. The pneumatic injection PRB pilot test utilized a single row of injection points with an estimated 30-ft. diameter. As such, the residence time of the water flowing through the PRB is approximately 10 to 15 days. Based on the available data, complete degradation appears to be occurring (as noted by increasing concentrations of ethane and ethene in LAB-SBW-16); however, some CVOCs were still present in LAB-SBW-16. This may be a function of inadequate residence time; however, it may also be due to contaminant mass in the bedrock matrix in the area of LAB-SBW-16. As noted above, a full-scale PRB is recommended to be completed further south of the pilot PRB. This should address the potential back diffusion

  issues in the area of the current PRB. Also, as noted above, overlapping injection points are recommended to ensure a continuous PRB and if completed with an additional row, this would increase the PRB thickness. Monitoring on the downgradient side would determine if any areas require re-assessment.

- Dosing Rate – This approach utilized a dosing rate of 0.6% (mass of ZVI amendment to mass of bedrock). There was no 'day-lighting' of material observed and excessive back pressure was not incurred during the injection intervals. ZVI was not observed in all intervals as noted above and additional ZVI could likely have been placed. A full scale pneumatic injection was determined to conceivably inject a higher dosing rate. Although the actual amount that could be placed may vary, for planning purposes a dosing rate of 1% should be utilized.

A bench-scale ZVI treatability study was completed in late 2020 and early 2021 to further evaluate the effectiveness of three different ZVI products in degrading CVOC constituents of concern, the appropriate dosing rate, and support PRB design parameters (refer to Section 6).

## 4.0 STANDARDS, CRITERIA AND GUIDELINES

This section identifies the Standards, Criteria and Guidelines (SCGs) for the Site. The SCGs apply to constituents of concern (COCs) as identified in the Record of Decision (March 2020), as the following:

| CVOCS: | |
|---|---|
| • trichloroethene (TCE) | • 1,1 dichloroethene (1,1-DCE) |
| • tetrachloroethene (PCE) | • 1,1,2-Trichloroethane (1,1,2-TCA) |
| • cis-1,2-dichloroethene (c-DCE) | • 1,1-dichloroethane (1,1-DCA) |
| • vinyl chloride (VC) | • 1,1,2-trichloro-1,2,2-triflouroethane (Freon-113) |
| • 1,1,1-trichloroethane (1,1-TCA) | |

| BTEX: | |
|---|---|
| • benzene | • ethylbenzene |
| • toluene | • xylenes |

Soil SCGs: The following SCGs for soil are applicable for the Site:

- New York Codes, Rules, and Regulations (NYCRR) Subpart 375-6 Remedial Program Soil Cleanup Objectives (RPSCOs) for the Protection of Groundwater;
- NYCRR Subpart 375-6 RPSCOs for Commercial Use.
- NYCRR Subpart 375-6 RPSCOs for Industrial Use.

Groundwater SCGs: The following SCGs for groundwater are applicable for the Site:

- NYSDEC Part 703 Groundwater Standards;
- Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values.

Soil Gas SCGs: Currently, no state regulatory (NYSDEC or NYSDOH) guidance values exist for soil gas.

Bedrock: Currently, no state regulatory (NYSDEC or NYSDOH) guidance values exist for bedrock.

## 5.0 REMEDIAL ACTION OBJECTIVES

The primary Remedial Action Objectives (RAOs) are as follows:

Groundwater RAOs:

a. Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards;
b. Prevent contact with, or inhalation of volatiles, from contaminated groundwater; and
c. Prevent off-Site migration of contaminants in groundwater at levels exceeding drinking water standards.

Soil RAOs:

a. Prevent ingestion/ direct contact with contaminated soil;
b. Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil; and
c. Prevent migration of contaminants that would result in groundwater or surface water contamination.

Soil Vapor RAOs

a. Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

## 6.0 DESIGN PHASE INVESTIGATION

A Design Phase Investigation (DPI) Work Plan was submitted in August 2020 and the DPI was conducted between September 2020 and January 2021. The DPI Work Plan included the following:

1. Monitoring Well Installations
2. Groundwater & Rock Core Sampling & Analysis
3. ZVI Bench-Scale Treatability Study
    a. ZVI Kinetics Testing
    b. ZVI Column/Metals Testing

While not included as a scope item in the DPI Work Plan, a bromide tracer test was also conducted to assess the bedrock groundwater flow velocity in the area selected for ZVI PRB installation. Each of the DPI activities and findings is described in the subsections below.

### 6.1 *Bedrock Monitoring Well Installations*

Three (3) bedrock groundwater monitoring wells (designated LBA-SBW-17, LBA-SBW-18 & LBA-SBW-19) were installed downgradient from the general area selected for ZVI PRB installation to improve P-1 plume delineation downgradient from the planned PRB and establish background bedrock groundwater quality in this area of the FESL prior to PRB installation. The groundwater sampling and analysis data indicated lower concentrations than previously contoured for the area (additional details below). A fourth bedrock monitoring well was installed (designated LBA-SBW-20) to support configuration of the PRB design

(specifically, the eastern extent of PRB installation) and confirm the conceptual model of CVOC transport of the P-1 plume.

The four (4) wells were installed in general accordance with the DPI Work Plan. Soil cores were retrieved to the top of the bedrock surface using macrocore liners or split spoons and continuously logged by a LaBella and/or GEI geologist. Soil was screened for visible and/or olfactory impairment, and/or indication of detectable volatile organic compounds (VOCs) by a photo-ionization detector (PID) during boring advancement. Based on previous work completed at the Site the P-1 Plume was anticipated to be located only within the bedrock zone in this area and that appeared consistent with the findings of the borings.

Soil sampling was included in the work plan unless PID readings were significantly elevated (e.g., greater than 250 ppm) and since such readings or other evidence of gross impacts were not identified soil samples were not collected. A summary of the soil boring PID readings are provided below:

| Location | Depth (ft.)/PID Readings (ppm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 0-4 | 4-8 | 8-12 | 12-16 | 16-20 | 20-24 | 24-28 | 28-32 |
| LBA-SBW-17 | 0 | -- | -- | 5.4 | 16.8 | 16.8 | 18.5 | 0 |
| LBA-SBW-18 | 0 | 0.2 | 21.7 | 41.6 | 47.8 | 47.8 | -- | 0 |
| LBA-SBW-19 | 0 | 0.1 | 2.5 | 165 | 148 | 0 | -- | -- |
| LBA-SBW-20 | 3.7 | 2.0 | 0 | 4.7 | 4.1 | 3.2 | 3.0 | 0 |

Notes:
- PID readings collected using a MiniRae 3000 PID and readings shown are in parts per million (ppm) total VOCs.

Upon reaching the bedrock surface, the augers were advanced approximately 2-3 feet into the top of rock to provide a rock-socket for a permanent casing. A 6-inch diameter permanent steel casing was cement-grouted in-place in the top of the rock socket using a tremie pipe. The grout was allowed to cure for approximately 24 hours prior to corehole advancement. Following the installation of the casing, an HQ core barrel was advanced to a depth of approximately 20 feet below the bottom of the permanent casing in 10-foot increments. In order to minimize the potential of potable water loss air rotary coring methods were utilized during the advancement of the core barrel. At the completion of bedrock coring, the HQ core hole was reamed using a 3 7/8" roller bit, and the monitoring wells were completed as an open bedrock hole. All drilling equipment utilized during the installation and testing of each well were decontaminated between monitoring well installations.

Details of the rock coring procedure including drill rate, water loss, and the presence of voids noted during core barrel advancement were recorded on field forms. The retrieved rock core was logged by a Labella and GEI geologist, and logs are included in Appendix 1. The logs include a description of rock type, presence of natural and mechanical breaks, and a calculation of rock-quality designation (RQD). The rock cores are on-site in wooden core boxes. In general, the rock quality was similar to previous bedrock wells installed at the Site which generally consists of highly weathered/fractured bedrock in the top 3-ft. of bedrock with increasing rock competency with depth. The bedrock cores did not exhibit any significant evidence of impacts (i.e., no staining, no odors and all PID readings were 0.0 ppm).

As noted in the DPI Work Plan, a section of core in the upper five feet of bedrock biased toward fracture zones was selected from each bedrock well location was selected for analysis by immediately wrapping aluminum foil for preservation, placed in a plastic bag, and packed in ice for delivery to the laboratory. The rock core was frozen, crushed and placed in a sample jar containing methanol for extraction via EPA Method 5035 and analyzed by EPA Method 8260 following two weeks of preservation. The table below summarizes the rock core testing samples collected:

| Well Location | Sample Depth (ft. BGS) | Sample Elevation (ft. MSL) |
|---|---|---|
| LAB-SBW-17 | 35.5-35.8 | 521.72 – 521.69 |
| LAB-SBW-18 | 31.8-32.2 | 521.64 – 521.24 |
| LAB-SBW-19 | 22.0-22.4 | 527.08 – 526.68 |
| LAB-SBW-20 | 29.6-29.9 | 519.68 – 519.38 |

Evidence for potential hydraulic communication with nearby monitoring wells (spouting, presence of air bubbles) was also evaluated for during the coring and reaming process; however, no evidence of spouting or other communication was identified during the well installations. In addition, following installation of each well, a Well-Vu Camera was used to observe fractures in each well. Video was recorded and depths of fractures noted. The video scoping indicated similar rock consistency and fractures as previously recorded well locations.

Subsequent to the well installations, each well was developed by pumping and observing water quality indicator parameters until the parameters stabilized. Well development logs are included in Appendix 1.

## 6.2 *Groundwater & Rock Core Sampling & Analysis*

### 6.2.1 Rock Core Sampling Results

The rock core (bedrock matrix) sampling results for VOCs generally indicated minimal concentrations of CVOCs (<500 ppb in each sample) in the downgradient bedrock matrix for wells LAB-SBW-17, LAB-SBW-18 and LAB-SBW-19. The bedrock sample from LAB-SBW-20 identified higher concentrations of CVOCs (26,000 ppb). LAB-SBW-20 is closer to the source area.

Table 1 summarizes the bedrock matrix sampling conducted as part of the RI and DPI.

### 6.2.2 Bedrock Groundwater Sampling Results

Subsequent to development the wells were allowed to equilibrate at least 48 hrs prior to collecting groundwater samples. During the DPI, groundwater samples were collected from each of the new monitoring wells at two vertical intervals in each well and GMX-MW-3, LAB-SBW-15 and LAB-SBW-16 to assess potential variations in concentrations vertically. This data was utilized to further assess the potential vertical extent of the PRB. Additional groundwater sampling was also conducted as part of the Treatability Study; however, that is summarized in Section 6.3. The table below summarizes the groundwater sampling completed as part of the DPI.

| Boring/Well Location | Date | Sampling Depths (Ft. BGS) | Sampling Depth (Ft. Below Top of Rock) | Elevation (fmsl)s |
|---|---|---|---|---|
| GMX-MW-3 | 9/16/20 | 28 | 6.7 | 518.69 |
| | | 30 | 8.7 | 516.69 |
| LAB-SBW-15 | 9/17/20 | 29 | 5.3 | 517.63 |
| | | 40 | 16.3 | 506.63 |
| LAB-SBW-16 | 9/17/20 | 33 | 4.8 | 517.32 |
| | | 44 | 15.8 | 506.32 |
| LAB-SBW-17 | 9/16/20 | 42 | 9.7 | 517.01 |
| | | 52 | 19.7 | 507.01 |
| LAB-SBW-18 | 9/16/20 | 39 | 9.0 | 516.42 |
| | | 48 | 18.0 | 507.42 |
| LAB-SBW-19 | 9/16/20 | 35 | 12.6 | 515.75 |
| | | 47 | 24.6 | 503.75 |
| LAB-SBW-20 | 12/14/20 | 35 | 7.2 | 515.25 |
| | | 43 | 15.2 | 507.25 |

Groundwater sampling logs are included in Appendix 1.

Table 2 summarizes the testing completed for each of the above wells since the baseline testing (March 2017) conducted prior to the Pilot Test. Additional historical testing data for GMX-MW-3 and other wells can be obtained from prior reports. A summary of the data from each well is provided below.

- GMX-MW-3: This well is downgradient of the source area and was installed June 2000. The initial sampling of this well (July 2000) identified total CVOCs of 5,258 ppb (inclusive of COCs and non-COCs). This well has been sampled numerous times since 2000 and the concentrations of CVOCs have significantly decreased. Specifically, a sample from July 2010 identified total CVOCs of 2,035.6 ppb and May 2017 total CVOCs were 1,201 ppb (prior to the Pilot Test). Since the Pilot Test, this well has been sampled four times: February 2019 (452.6 total CVOCs); June 2020 (550 ppb total CVOCs) and September 2020 (173.6 and 171 ppb total CVOCs). The CVOCs detected in the well have predominantly consisted of the breakdown product COCs namely cis-1,2-Dichloroethene (DCE) and Vinyl Chloride and a non-COC, chloroethane.

- LAB-SBW-15: This well was installed in April 2017 and is on the downgradient edge of the source area. There have been several sampling events including several events sampling different vertical intervals. The initial 'depth discrete' sample from this well collected from the upper most fractured bedrock zone during the well installation identified the highest concentrations of CVOCs (4,976 ppb) of any sample from this well. The Pilot Test blasted bedrock trench PRB was installed approximately 15 feet north of this well. Since the Pilot Test, this well has been sampled on six occasions and with the exception of the initial post Pilot Test sample the total CVOC concentrations have ranged between 77.8 ppb and 435 ppb. The initial post Pilot Test sample indicated a significantly higher concentration of total CVOCs (5,513 ppb) than the baseline Pilot Test samples (22.4 ppb to 91.2 ppb). As summarized in the Pilot Test Report, the initial increase in CVOCs appears to be due to displacing contaminants during the injection process and possibly by back diffusion processes following bedrock blasting during the Pilot Study. The most recent sampling of this well during the DPI included two vertical depths (approximately 28 ft bgs or 516.55 fmsl and 40 ft. bgs or 504.55 fmsl). The concentrations of total CVOCs from these two intervals were similar 400.7 ppb (28 ft. bgs) and 372.5 ppb (40 ft bgs).

- LAB-SBW-16: This well was installed in April 2017 and there have been several sampling events at different depth discrete intervals. The initial depth discrete sample from this well collected from the upper most fractured bedrock zone during the well installation identified the highest concentrations of CVOCs (3,920 ppb, ~519-522 fmsl) of any sample from this well until the most recent sampling which identified 4,405 ppb total CVOCs in a sample collected from 33 ft bgs (515 fmsl). This well is approximately 15 ft. south of Pilot Test pneumatic injection point 4 (IP-4). Prior to the Pilot Test, three (3) baseline samples (May 2017) were collected from this well at varying elevations. The deepest sample identified the lowest total CVOC concentration (102 ppb, ~500–502 fmsl) and the other two samples identified higher concentrations (475 ppb at ~516.5–518.5 fmsl and 592 ppb at 508-510 fmsl). Since the Pilot Test, there have been six (6) sampling events of this well. Similar to LAB-SBW-15, the initial post injection sample increased in comparison to the baseline samples collected in May 2017; however, concentrations decreased to at or below the pre-injection concentrations until the most recent (September 2020) sampling event. The September 2020 DPI event included sampling two vertical intervals: ~515 fmsl and ~504 fmsl. The 515 fmsl sample indicated significantly higher total CVOCs (4,405 ppb) than the deeper sample (116 ppb). The initial five post Pilot Test sampling events from this well were collected from a depth of approximately ~498 fmsl. This significantly higher concentration of total CVOCs in LAB-SBW-16 may be due to elevated concentrations being present in this zone. It is also possible that since the sampling was completed approximately 2 weeks after installation of LAB-SBW-17, LAB-SBW-18 and LAB-SBW-19 and 1 week after development of these wells that some COCs were displaced during the drilling and/or subsequent pumping; however, these wells are approximately 150 ft. to the south and no communication was observed between these wells during the drilling.

- LAB-SBW-17, LAB-SBW-18 and LAB-SBW-19: These wells were all installed in September 2020 and have only been sampled once; however, two vertical intervals were sampled from each well in order to assess the potential for variations in concentrations vertically. Prior to installation/sampling, modeling of the groundwater plume inferred a concentration range of 1,000 to 2,500 ppb in this area of the Site. However, the sampling results indicated significantly lower concentrations in the groundwater. A summary of the total CVOCs for these wells is below:

| Well | Elevation (fmsl) | Total CVOCs (ppb) |
|---|---|---|
| LAB-SBW-17 | ~517 | 37.5 |
| | ~507 | 24.27 |
| LAB-SBW-18 | ~516 | 75.8 |
| | ~507 | 81.4 |
| LAB-SBW-19 | ~515 | 9.7 |
| | ~503 | 8.7 |

Since monitoring data from these locations were not available/obtained prior to the Pilot Test, it is unknown if the concentrations of total CVOCs in these wells is due to a decrease in concentrations as a result of the Pilot Test PRB (each of these wells are downgradient of the Pilot Test area). Based on the substantially lower concentrations in these wells than what was predicted via modeling, it was determined that water from these wells would not be used as part of the Treatability Study.

- LAB-SBW-20: This well was not initially planned to be installed as part of the DPI; however, since LAB-SBW-19 is approximately 100 ft. to the northwest of GMX-MW-3 (an apparent upgradient direction) and LAB-SBW-19 identified lower concentrations of total CVOCs than GMX-MW-3 this well was installed to assess a potentially more direct bedrock migration pathway from the source area to GMX-MW-3 (assess plume configuration) and support PRB design in an eastward direction. Similar to the other three DPI wells, this well included sampling of two vertical intervals after installation/development. The shallow sample (~514 fmsl) identified total CVOCs of 326 ppb and the deeper sample (~506 fmsl) identified a concentration of 66 ppb. The concentration in the shallow sample was within the inferred concentration range for the groundwater plume modeling.

The CVOC P-1 Plume extent is shown on Figure 5 which incorporates the September 2020 sampling data with the inclusion of the four new wells.

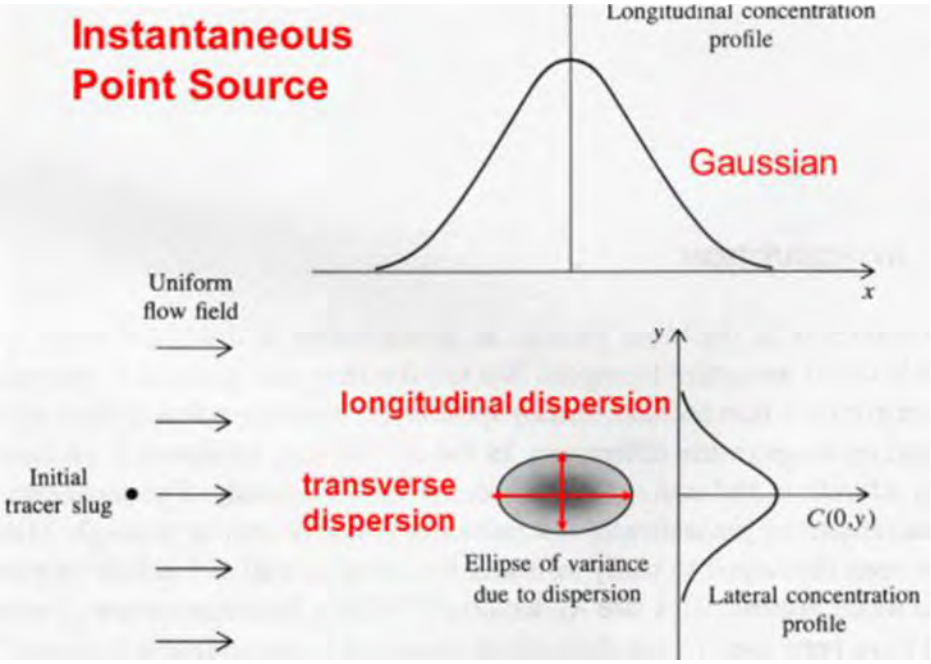
### 6.2.3 Tracer Test

A tracer test was completed by LaBella to verify the Darcy calculated bedrock groundwater flow velocity for the P-1 Plume in the area local to the planned PRB. The test was completed by injecting a non-reactive tracer salt (bromide) solution into injection wells IP-2 and IP-4 which are directly upgradient of LAB-SBW-15 (16.5 ft) and LAB-SBW-16 (6.5 ft), respectively. The target concentration for the bromide solution was 1,000 mg/L and the actual concentration was confirmed by laboratory testing to be 940 mg/L. The tracer test was initiated on December 17, 2020 and consisted of slow injection (about 100 mL/min) of 2 Liters of the solution into each well via a peristaltic pump with tubing placed approximately 1 ft. below the top of the water table. Baseline bromide samples were collected from LAB-SBW-15 and LAB-SBW-16 prior to the placement of the bromide solution which showed non-detected bromide concentration.

Groundwater samples were collected using a bailer in wells LAB-SBW-15 and LAB-SBW-16 daily with laboratory analysis for bromide. Sampling was not conducted on select days (holidays) and the frequency was reduced after the initial 2 weeks of testing. Collected samples were submitted to Paradigm

Environmental for analysis of bromide via USEPA Method 300.0. Field measurements of specific conductance using a Myron L Company Ultrameter II was performed in the field. Due to a malfunction with the initial meter obtained for the conductivity testing, data for conductivity was not collected on the December 17 and 18, 2021. Conductivity readings were not collected after January 7, 2021 as the conductivity readings correlated poorly with detected bromide concentrations. The bromide testing results and conductivity readings are summarized on Table 3 with graphical analysis also included after Table 3 in the tables section attached.

In porous media, groundwater flow and transport occurs through primary porosity. Under uniform flow conditions, a gaussian distribution of detected bromide concentrations is typically expected as diffusive and dispersive transport properties cause early detections of the tracer in the downgradient wells with the bulk of the tracer mass reaching the downgradient wells through advective groundwater transport (illustrated in the figure below from Wang and Anderson {1982}).




However, constituent transport in fractured rock is different from porous media where transport occurs through interconnected secondary porosity features which include vugs, cavities, fractures, and joint sets. As shown on the graphical representation of Table 3, early detections of bromide in the two downgradient wells in the PRB area are likely caused by diffusion and transverse dispersion which is identified in bromide detections between day 1 and day 5 following injection. On day 6, bromide concentrations were several times higher as the bromide tracer front reached the two downgradient wells during advective transport through fractures and continued to be detected at similar concentrations for 22 days as the bromide concentration slug flowed past the wells. Bromide concentrations declined sharply subsequently. The tracer tests identified an estimated local groundwater flow velocity of approximately 2.75 feet per day in the area of LAB-SBW-15 and 1 foot per day in the area of LAB-SBW-16. The higher flow velocity near well LAB-SBW-15 may be influenced by the 2017 pilot study which used bedrock blasting to create a bedrock fractured trench for ZVI injection and fractures may have propagated a short distance away from the blasted area which may have been responsible for the observed higher flow velocity when compared to LAB-SBW-16.

The measured tracer test velocity in range of 1 to 2.75 feet per day for the PRB area is generally consistent with the larger scale Darcy calculated bedrock groundwater flow velocity for the P-1 Plume of 2 to 3 feet per day reported in the RI Report. The rate of COC migration will be less than flow velocity as the constituents attenuate to the matrix of the water-bearing zone during transport. The groundwater flow velocity and rate of chemical migration is a critical factor in defining the width of the PRB and thus residence time of groundwater (and contaminants) within the PRB.

## 6.3 ZVI Treatability Study

A laboratory treatability study was conducted by XDD Environmental of Stratham, NH to support the ZVI PRB design. The laboratory report is included in Appendix 2. The treatability tests included kinetic batch bench tests and column studies for treatment of chlorinated ethenes which are the more recalcitrant COCs listed in Section 4. The treatability study was designed to assess optimal ZVI amendments and dose (Kinetics Bench Test) and then through the Column Test to evaluate the PRB width and the potential for mineral precipitates which could impact performance of the PRB over time.

A summary of the testing and findings are provided below.

### *6.3.1 ZVI Kinetics Bench Tests*

Bench scale testing was designed to evaluate three Hepure ZVI products and dose required to treat the chlorinated ethene COCs in groundwater with a goal of achieving at least an 80% reduction. The 80% reduction is not a metric defined in the NYSDEC ROD; however, this minimum reduction in COCs was defined as the goal for the treatability study testing. This (minimum) reduction in COCs is estimated to reduce COCs to a level that will allow impacts to naturally attenuate prior to migration off-site.

*Kinetics Test Water*

The DPI planned groundwater collection for testing from one of the new monitoring wells (LBA-SBW-17, LBA-SBW-18 or LBA-SBW-19) for use as source water in the bench tests, since this area was anticipated for the future PRB installation. However, as noted above, the concentrations in the new wells were significantly lower than initially anticipated based on the groundwater plume modeling conducted prior to installation. It is anticipated that the lower concentrations are due to the previous Pilot Test attenuating impacts north of this area and thus significantly reducing the plume in this area. Therefore, monitoring wells LAB-SBW-03 and LAB-SBW-07 were selected to provide treatability test water as the concentrations in these wells (based on prior sampling events) were in a CVOC concentration range of 1,000 to 3,000 ug/L and represented more appropriate worst-case groundwater concentration requiring in-situ treatment in the ZVI PRB. The two wells were sampled on September 23, 2020 and the results are summarized in Table 2.

As shown in Table 2, the concentration of total CVOCs in LAB-SBW-03 was 230 ppb and LAB-SBW-07 was 3,031 ppb. Based on these results, LAB-SBW-07 was selected for collecting groundwater to use within the Treatability Study. However, due to concerns with concentrations varying with time, water levels and potential displacement of contaminants seen historically at the Site, at the time water was collected from LAB-SBW-07 (September 28, 2020) for the treatability study, a sample of the water was collected at the beginning (13:30) of the pumping event and at the end (14:50) of the pumping event. These samples indicated similar concentrations to the September 23, 2020 sample with concentrations of 3,132 ppb and 2,120 ppb respectively. These samples were put on a rush turnaround and after receipt of the results the water collected from LAB-SBW-07 was confirmed for use as part of the Treatability Study.

A total of 50-Liters of water was collected from LAB-SBW-07 and sent to XDD for use in the Treatability Study.

*ZVI Kinetic Batch Tests*
A detailed report on the kinetics test is included in the XDD Report which is included in Appendix 2. This section provide a summary of the work. The following ZVI products were evaluated during bench scale kinetic testing:

- Hepure- Ferox Flow (used for the pilot test)– 95% ZVI. 125-micron average particle size.
- Hepure – Ferox Target – 95% ZVI. 44-micron average particle size
- Hepure – Ferox Plus eZVI – 40% ZVI, food grade soy bean oil, emulsifiers, thickeners and proprietary nutrient blend including nitrogen, phosphorus and vitamin B12, and sodium lactate.

Two (2) doses of each product were selected for testing (i.e., 6 tests total). Dosing was determined based on discussions with Hepure and were determined to be 1% and 5% by weight of bedrock and water. It should be noted that the Pilot Test Testing utilized a 6% dosing for the blasted bedrock trench and a 0.6%

dosing for the pneumatic injections. The kinetic testing was completed in 20 degree Celsius batch reactors. A control was set up with no ZVI product. A duplicate for each of the six (6) tests was also set up. A small amount of bedrock collected from LAB-SBW-18 was added to each batch reactor. Samples were collected at Days 0, 0.5, 1, 2, 3, 4, 5, 8, 13 and 25 and analyzed for TCL VOCs, pH, and ORP.

The ZVI batch testing demonstrated a greater than 95% reduction in treatability testing total COCs for the Ferox Target at 5% dosing and a greater than 85% reduction in treatability testing total COCs for the Ferox Flow at 5% dosing. The Ferox Plus eZVI achieved less than 30% reduction in total COCs and was not retained for further analysis by column tests.

As expected, the pH increased in the ZVI kinetic test treated waters and ORP was lowered to favorably negative values (readings greater than -200 mV) in both the Ferox Flow and Ferox Target products. Both products lowered dissolved methane gas concentrations and dissolved ethene and ethane gas concentrations increased slightly more in the Ferox Target compared to the Ferox Flow as the percentage of CVOC decreased more in the Ferox Target batch test. Alkalinity was reduced by approximately 50% with both ZVI products. The reduction in alkalinity is a function of decreasing soluble calcium carbonate concentrations.

### *6.3.2 Treatability Study – Column Tests*

*Column Test Water*
Subsequent to determining which treatment chemicals were retained for Column Testing, the water required for the Column Test was planned to be obtained from LAB-SBW-07 on November 30, 2020. However, the two samples collected over the extraction of 50 Liters indicated significantly lower concentrations in LAB-SBW-07 (438 ppb and 335 ppb, respectively) than the previous samples on September 28, 2020. Due to these lower concentrations XDD indicated that there was adequate volume remaining from the Kinetics Test and samples were collected (Column Test Day 0 and Column Test Day 0 Dupe) and analyzed and confirmed adequate concentrations, 2,026 ppb and 2,433 ppb, respectively. As such, this water was utilized for the Column Test.

*Column Testing*
The objectives of the Column Test were:

- Confirm the ZVI product and dose is successful in a column test resembling Site conditions (i.e., similar groundwater flow rate and bedrock from the Site).
- Determine if the change in groundwater chemistry (i.e., ORP, pH) due to the ZVI results in changes in dissolved metals in groundwater.
- Provide information to support PRB design (specifically necessary residence time and thus PRB width).

Three (3) column tests were constructed; one with the site groundwater and bedrock only as a control, one with site groundwater, bedrock and Ferox Flow (5%) and the third with site groundwater, bedrock and Ferox Target (5%). The Columns were constructed of 1-inch stainless steel tubing and were 4-ft. in length in order to simulate a 4-ft. PRB thickness. Bedrock from LAB-SBW-18 was utilized for the Column Testing and was crushed to a uniform coarse sand particle size. Prior to testing, the columns were saturated with the site groundwater and groundwater was pumped through the columns at the estimated groundwater flow velocity of 2 ft./day simulating the approximate flow velocity in the area of the PRB. The columns were allowed to equilibrate prior to testing as described in Appendix 2. Subsequent testing of treatment efficiency during column testing involved the following sampling and analysis:

- Baseline "Day 0" control sampling for VOCs, pH, ORP, alkalinity, sulfate, dissolved gases, TAL metals. This sample was analyzed to confirm conditions of the water prior to treatment through the columns and as a comparison to the post treatment samples.

- One '4-ft. Treatment' sample with analysis for the same parameters as the Baseline control listed above.

- One '4-ft. Treatment: Second/Confirmation sample (i.e. this sample was utilized to confirm the initial 4-ft. treatment results. This sample was analyzed for VOCs only.

- One '8-ft. Treatment' sample (i.e., collecting the water from the 4-ft. Treatment and running it back through the column in order to mimic an 8-ft. thick PRB) was analyzed for VOCs only.

The Column Test results are summarized below and further details on the Column Test are included in the XDD report in Appendix 2.

| Test | Compound | % Reduction COCs |
|---|---|---|
| 4-ft. Treatment | Ferox Flow | 64% |
| | Ferox Target | 91% |
| 4-ft. Treatment Confirmation | Ferox Flow | 73% |
| | Ferox Target | 98% |
| 8-ft. Treatment | Ferox Flow | 66% |
| | Ferox Target | 96% |

Note: ZVI dosing was 5% for both ZVI Products.

Other than a reduction in calcium concentrations, metals were not substantially affected by either ZVI product. Similar to the batch tests, pH increased and both ZVI products with Ferox Target having a higher pH than the Ferox Flow. Methane concentrations decreases more in the Ferox Target than in the Ferox Flow and ethene and ethane dissolved gas concentrations were higher in the Ferox Target than the Ferox Flow as a result of higher ethene/ethane CVOC destruction. The increase in reduction percentage by additional treatment using a greater column length was not considered significant.

### *6.3.3 Summary of ZVI Treatability Testing*

The bench-scale treatability testing confirmed field pilot test injection testing results where ZVI Ferox Flow reduced 1,1,1-TCA and chlorinated ethene concentrations in groundwater. Kinetic testing demonstrated a better than 85% reduction in treatability testing COCs using site groundwater with ZVI Ferox Flow and an even higher reduction of in COCs of 95% with ZVI Ferox Target (both at 5% dosing). The bench-scale kinetics tests showed higher reductions in COC concentrations with a higher dose (5% dosing was more effective than 1% dosing). Column tests for Ferox Flow and Ferox Target at 5% dose indicated 73% and 98% COC reductions, respectively for the confirmation columns. Based on the kinetic testing results,

higher dosing would be expected to increase percent removal efficiency in the columns. Both ZVI products reduced ORP value to more than -150 mV in batch and column testing and both ZVI products did not increase metals concentrations.

## 7.0 SELECTED REMEDY

This section details the selected remedy. As described in the ROD, the elements of the Final Remedy are as follows:

a) Remedial Design
b) Site Cover
c) Vapor Mitigation
d) Zero Valent Iron (ZVI) Permeable Reactive Barrier (PRB)
e) Monitored Natural Attenuation (MNA)
f) Institutional Control
g) Site Management Plan

### 7.1 *Site Grading/ Cover*

A cover system consisting of a minimum 1-ft material that meets Commercial Use SCOs will be placed across the 1700 Emerson Street parcel. Refer to Figure 7 for the area of the Site that will receive cover.

#### *7.1.1 Site Grading/ Cover*

A total of approximately 32,220 CY of cover material is currently staged on the Site and will be used as the final cover. An additional 11,100 CY of cover material is also planned for import to the Site in 2021. All the materials imported (and to be imported) were obtained and sampled in accordance with NYSDEC-approved Beneficial Use Determinations (BUDs) under NYCRR Part 360 regulations. The currently stockpiled material and the material planned for import is sufficient to provide an approximate 2.2-ft cover across the Site. BUD material was sampled prior to import and; as such, additional sampling of the cover system will not be completed. The Site will be graded to provide a a generally level area for future development; however, the Site is designed with a pitch to the southeast to allow for positive surface drainage and prevent ponding. The sources of cover material include the following:

1. **Colfax Street BUD 828023-1**. Approximately 7,070 CY of soil was imported from 110-210 Colfax Street in 2019 (See Cover Soil Stockpile A on Figure 6 and 7) and approximately 11,100 CY of soil has been approved for import and is awaiting import in 2021. These materials consist of screened soil from various City Street/utility projects. The 2019 material is staged as shown on the attached Figure 6 & 7.
2. **Rundel Library BUD 828023-2**. This material consists of sediment imported from beneath the Rundel Library in 2020. Approximately 2,450 CY of sediment was removed from a cooling basin located beneath the library and staged in "Cover Soil Stockpile B" as shown on the attached Figures 6 & 7.
3. **West River Wall BUD 828023-3.** This material was imported from the West River Wall project and consists of approximately 1,700 CY staged in "Cover Soil Stockpile C" as shown on the attached Figures 6 & 7.
4. **Port of Rochester BUD.** Approximately 20,000 CY of soil/sediment material was imported from the Port of Rochester under a BUD application dated February 2011. This material is located in "Cover Soil Stockpile D" as shown on the attached Figures 6 & 7.

In addition, to the above, there is material that appears to have been placed at the Site from the construction of Edison Tech School. This material appears to be predominantly soil; however, there is landfill material intermixed. Although this material is vegetated it is an approximately 350 ft. by 100 ft. pile that is approximately 15 ft. feet in height. This is currently the highest elevation at the Site and this pile will be re-graded to fill in lower elevations of the Site prior to covering with cover material soils. A demarcation layer (e.g., orange snow fence or similar) will be installed across the Site below the cover material soils

which are considered final cover. The Port of Rochester BUD material will be used as the top 1-foot of cover. Refer to Figure 7 for grading plans and Figure 8 for stormwater control details.

### *7.1.2 Monitoring Well Modifications*

Monitoring well risers will need to be modified prior to grading. Monitoring wells will be adjusted to be approximately 3-feet above final grades. Locking well caps will be re-installed on each well following the modifications. In addition, monitoring wells will be protected during cover system construction using concrete Jersey barriers, or similar. The following monitoring wells and injection wells will be modified and protected during grading (refer to Figure 4 for well locations):

- Shallow Bedrock Wells:
  - LAB-SBW-01 through LAB-SBW-20
  - GMX-MW-1
  - GMX-MW-3
  - GMX-MW-4
  - GMX-MW-6S
  - GMX-MW-6D
- Deep Bedrock Wells:
  - DBW-01
  - DBW-02
- Interface Wells
  - P-1
- Injection Wells:
  - IP-1 through IP-5
- Multi-Level Shallow Bedrock Wells:
  - ML-1 through ML-8

The following overburden wells will be decommissioned in accordance with CP-43 prior to grading:

- 2016-SB/MW-18
- 2016-SB/MW-19
- 2016-SB/MW-20
- 2016-SB/MW-21
- 2016-SB/MW-22
- LAB-OBW-01

### *7.1.3 Stormwater Controls*

In order to address potential stormwater and erosion concerns, the following erosion and sedimentation controls (ES&Cs) will be put in place during the construction work.

1. Silt fencing will be installed along the perimeter fencing as shown on Figure 7 in order to prevent off-site migration of sediments during construction work. The silt fencing will be maintained throughout the construction project and until the area obtains 80% vegetative cover.
2. A stabilized construction entrance will be installed for the entrance area to the site in order to limit potential migration of sediments off-site through vehicle traffic.
3. As needed, street sweeping will be conducted in order to remove any soil/sediment that is tracked off-site.

Additional details on ES&C measures are shown on Figure 8.

## 7.2 *ZVI Permeable Reactive Barrier (PRB)*

The findings from the Remedial Investigation, 2017 Pilot Test (see Section 3.3) and the DPI (see Section 6) were the basis for full scale ZVI PRB design to achieve RAOs. The ZVI PRB will be installed perpendicular to groundwater flow in the approximate location shown on Figure 5 in combination with monitored natural attenuation of to reduce concentrations of COCs in groundwater migrating toward the south and southeast to mitigate migration of CVOCs off-Site. The general groundwater flow direction is toward the south and may trend southeast or southwest based on the seasonal variations and elevation of the sewer system running north-south beneath McCrackanville Street. Total CVOC distribution in bedrock groundwater was modeled after the Design Phase Investigation and is a shown on Figure 5. The plume mapping was used to establish the location of the PRB and the vertical depth of the PRB.

The PRB will be approximately 400-ft in length laterally. The eastern side of the PRB will initiate approximately 75 ft. west of McCrackanville Street and be south of but slightly east of LAB-SBW-12 and LAB-SBW-20. The PRB will extend to the southwest and west and then with a slight arc to the northwest. The PRB will extend west to an area approximately 60 ft. to the south of LAB-SBW-14. Vertically, the PRB will extend from the top of bedrock to approximately 15-18 ft btr which includes the A-Zone and B-Zone (upper and lower B zone – See Section 3.2.1). This vertical extent represents >99% of the CVOC mass present in bedrock and bedrock groundwater. Figure 9 provides the plan view location of the PRB relative to the P-1 Plume and Figure 10 provides a detail plan view with cross sections illustrating the lateral and vertical extent of the PRB. Figure 10 also details ZVI injection well construction.

Additional details on the PRB construction including blasting, injection point installation and injections are provided in the sub-sections below.

During the pilot test, monitoring was completed to evaluate soil vapor in the surrounding area of the Site. Methane and VOCs were monitored in surrounding soil gas points to confirm the injection work did not have an effect on methane or VOCs in soil vapor. As detailed in the Pilot Test Monitoring Report, the data did not present any definitive trends that could be attributed to pilot test work. The injections did not appear to cause an increase in methane or VOCs in soil vapor at the Site. Although the full-scale PRB will result in an overall greater disturbance, the Pilot Test areas represented a significant area (over 150 ft) and the Pilot Test PRB was closer to the source area. Based on these results, soil vapor monitoring will not be completed during PRB installation.

### *7.2.1 Blast-Enhanced Bedrock Trench*

The ZVI PRB will be installed via a blast-enhanced bedrock trench. The PRB/blast-enhanced bedrock trench location is shown on Figure 9 and 10. The installation of the PRB via the blast-enhanced bedrock trench is supported by the following:

- The testing completed as part of the Pilot Test PRB indicated that the blast-enhanced bedrock trench PRB successfully treated the COCs.
- The treatability study and tracer testing work as part of the DPI indicated that an 80% reduction in COCs can be achieved with an approximate 4 ft. width (depending on ZVI type and dosing, further discussed in Section 7.2.2).

This PBR construction method consists of fracturing the bedrock using explosives to create a local, highly interconnected fracture network to increase the homogeneity of heterogenous natural bedrock fracture network. Based on the pilot test, an assumed radius of influence of 2.5-ft is estimated for the blast points. As such, approximately 80 drilled shot holes spaced approximately 5-ft apart will be blasted to form an interconnected blast-enhanced bedrock trench approximately 400-ft in length and 5-ft in width (consistent with the treatability study findings). A New York State-licensed blaster will prepare a Blasting Plan detailing

methods and safety protocols to achieve these requirements. Shot holes will be drilled and loaded with high explosives according to licensed blaster-prepared Blasting Plan. Following drilling and loading of shot holes, each loaded shot hole will be filled with stemming stone to confine the detonation to the bedrock and blast mats will be placed over the shot holes during detonations. Blasting design will be performed according to the blaster-prepared Blasting Plan to ensure proper safety measures are followed based on the USBM Alternative Level Criteria, Appendix B.

Seismic vibration monitoring will be completed at distances no greater than 250 feet from PRB blasting area and located between the PRB and the closest structures to blasting area which will include the sewers along McCrackanville St. located approximately 85 feet from the eastern limit of blasting for the PRB and the solar array located approximately 370 ft. to the north. The action level for blast vibration seismograph readings is a peak particle velocity (ppv) not exceeding 2-inches/sec at a ground frequency of 40 Hz or greater. If the action level is exceeded, work will cease and the contractor will reassess the blasting approach.

Following completion of the blasting, two types of injection wells will be installed in order to maximize distribution of the ZVI. Bedrock and Weathered Bedrock/Top of Bedrock wells will also be installed. Each well will be placed on-center approximately every 50-ft; however, the wells will be off-set by 25-ft. The Weathered Bedrock/Top of Bedrock injection wells will start at the end of the PRB (i.e., 9 wells total) and the Bedrock injection wells will initiate approximately 25-ft. from the end of the trench (i.e., 8 wells total). Injection wells will be placed approximately 25 ft. off each end of the trench. At each location two injection wells will be installed at varying depths:

1. Bedrock Injection Wells (Injection Interval: ~520 – 505 fmsl) – The bedrock injection wells are designed to place a majority of the ZVI into the blast-fractured bedrock trench. Each bedrock injection well will be installed by extending a 7-inch diameter borehole through the overburden/fill and no deeper than 1 to 2-ft below top of rock. A 5-inch diameter steel casing will be set to the bottom of the borehole and 'sealed' by placing 2-3 feet of bentonite chips and allowed to properly hydrate followed by a cement-bentonite grout slurry. The bentonite chips will be placed to limit the potential for grout infiltrating and clogging the blasted bedrock trench. During placement of the grout, if it appears grout is being lost into the blasted trench, the grout mixture will be thickened initially or grouting will be ceased and casing will be hammered into place but not grouted in place. Grout will be allowed to cure for a minimum of 24 hours prior to sonic coring. Subsequent to setting the casing, a 4.75-inch diameter core hole will be drilled 15-ft below the casing bottom (i.e., approximately 17-feet btr or approximately elevation 505 fmsl). The injection wells will be completed as open rock wells (i.e., no screen or sand pack installed). Rock cores will be retrieved and logged by a LaBella representative for only up to five (5) locations in order to assess the bedrock post-blasting.

2. Weathered Bedrock/Top of Bedrock Wells/Zone (Injection Interval 524 – 519) - In addition to the bedrock injection locations, the uppermost portion of bedrock top 2-3 ft (bedrock A-Zone (per Section 3.2.1) will also be targeted for injection work. Targeting this section separately is intended to further assist with and focus placement of ZVI into the uppermost portion of bedrock which has been documented to contain the greatest mass of CVOCs. Currently it is planned that injection in this zone will be completed one of two ways. The method of injection may be modified based on field observations and confirmation of the ability for the ZVI to be placed adequately. Initially, a weathered bedrock/top of bedrock well will be installed by extending a 7-inch diameter bore hole through the overburden/fill and 3-ft below top of rock. Subsequently, a 5-inch stainless steel screened section will be placed with a sand pack placed around the annulus and to 1-ft. above the top of the screen section. A minimum 2-ft. bentonite seal will then be placed followed by grout to the surface. In the

event that this method does not appear to adequately place material, direct injections will also be considered by injecting through the tooling.

A detail of the injection wells is included on Figure 10.

### 7.2.2 ZVI INJECTIONS

*ZVI Selection Rationale*

Ferox Flow ZVI is specified for injection into the full-scale ZVI PRB. While the treatability study found Ferox Target ZVI to have a slightly higher percent reduction in treatability study COCs in both the kinetics and the column testing compared to Ferox Flow ZVI at equivalent dosing (5%), XDD indicated that the achieved CVOC percent reduction could be improved by the Ferox Flow ZVI at a higher dosing rate (higher than the 5% tested). While higher dosing would require more Ferox Flow product to be used in the PRB, the cost of the Ferox Target is 60% greater than the Ferox Flow. For application at P-1 Plume, the cost of additional dosing using Ferox Flow would be similar to or lower than the Ferox Target using a 5% dosing with expected similar treatment performance. Another consideration for product specification was product longevity. The Ferox Target consists of a smaller diameter particle size (44 Micron) compared to the Ferox Flow ZVI (average particle size 125 micron) which increases the products reactivity. The downside of higher reactivity for the Ferox Target is a shorter product treatment life (reported by the manufacturer to be 8 to 10 years depending on groundwater quality). The Ferox Flow because of its larger particle size, is expected to have a longer treatment life (expected to be 15+ year).

The Pilot Test indicated that Ferox Flow ZVI adequately treated the groundwater plume (i.e., >80% reduction for total CVOCs in all but one well) at a dosing of 6%. Based on the Pilot Test data, the anticipated longer treatment duration with Ferox Flow, and product cost, the Ferox Flow ZVI was selected for use in the ZVI PRB to mitigate CVOCs in the P-1 Plume. The Pilot Test demonstrated that a 6% dosing rate was feasible and, based on the Pilot Test, a dosing rate of 8-10% was recommended. Therefore, a dosing of 10% Ferox Flow ZVI is specified for injection into the blast-enhanced fractured bedrock trench (approximately 5-ft. in width) with excess capacity to allow for ZVI injection to propagate outward beyond the trench and into the natural fractures into the bedrock thus providing a treatment zone wider than 5-feet but more diffuse beyond the blasted limits in the trench. Based on the treatability study data and pilot test work, the Ferox Flow ZVI at the dosing properly placed into the blast-enhanced bedrock trench will reduce COCs by 80% and thus meet the treatment requirements of the ROD (i.e., mitigating off-site migration of COCs).

*ZVI Emplacement*

A total of approximately 420,000 lbs of ZVI is planned for injection into the trench via hydraulic injection methods and assumes a maximum 10% dosing of the bedrock mass. The Pilot Test dosing was 6% and did not cause any backpressure or daylighting and thus a 10% dosing rate will be attempted. A slurry of approximately 35-40% ZVI (by weight) will be mixed in a holding tank (in batches). This equates to approximately 75,540 to 117,500 gallons of water total for mixing. The water will be obtained via a fire hydrant in proximity to the Site. The compatibility of the water quality of the municipally supplied water provided the City of Rochester and the Hepure Ferox Flow ZVI will be confirmed with the ZVI supplier. The slurry will be continuously mixed to prevent settling. The slurry will be injected at a flow rate of approximately 30-60 gallons per minute (GPM) using pressures up to approximately 60 psi.

The ZVI will be injected initially into bedrock injection wells in order to place the ZVI from the bottom up within the trench. As noted the bedrock injection wells include an approximate 15-ft. interval which excludes the top 1-2 ft. of bedrock. The weathered rock/top of bedrock injection wells target the top 2-ft.

of bedrock and will be injected into after the bedrock injection wells. The following summarizes the targeted zones and ZVI mass.

| Location | Inj. Interval (ft.)(1) | Volume(2) ($ft^3$) | % Total | Mass ZVI (lbs) | # of Inj. Pts. | ZVI/Pt. (lbs) |
|---|---|---|---|---|---|---|
| Weathered Rock/ Top of Bedrock Zone | 2 ft. | 4,000 | 11.76% | 49,412 | 9 | 5,490 |
| Bedrock Zone | 15 ft. | 30,000 | 88.24% | 370,588 | 8 | 46,324 |
| Totals | 17 ft. | 34,000 | 100% | 420,000 | 17 | -- |

(1) Injection Interval for the weathered rock/top of bedrock is based on targeted ZVI placement zone used for ZVI mass calculation. Actual injection interval is greater.
(2) Volume of injection zone is based on Injection Interval and assumes a 5-ft. wide trench by 400-ft. long.

Packers will be used to seal off the casing, thereby directing the ZVI slurry horizontally into the bedrock and preventing the injected material from coming back up the casing.

The USEPA Inventory of Injection Wells form (EPA form 7520-16) will be completed and submitted to the USEPA for approval prior to injection. The ZVI will be shipped in bags and mixed with potable water via a hydrant permit on-Site.

During injection work, the following data will be collected:

- *Real-Time initiation and maintenance pressures* - this will include utilizing a pressure transducer with datalogger during each injection event to continuously record data. This data may be used to create a pressure-time history curve displayed in real-time on a field laptop computer from which the initiation pressure and the maintenance pressure can be determined. The initiation pressure represents the pressure at which the formation yields to the influx of injection fluids. The maintenance pressure represents the pressure required to maintain sustained flow. Based on the Pilot Test it is anticipated that there will be a range of 30 – 60 PSI during the injection work.

- *Pressure influence at surrounding monitoring points* – During the injection, pressure gauges will be placed at monitoring wells within a 50-ft radius of the injection points that are screened within the treatment depths or above. In addition, pressure gauges will also be placed on each of the adjacent injection points (bedrock and weathered bedrock/top of rock points). These pressure gauges are set up to monitor for the maximum pressure influence at the monitoring well. Each pressure gauge is outfitted with a drag arm indicator that records the maximum pressure detected at the monitoring point during the injection. In addition, visual observations will be used to indicate pressure influence in surrounding wells.

- *Mass and volume of injection materials* – During the injection the mass and volume of the material that is injected will be documented for each interval. This will be used to compare to the planned injection amount with actual amount in order to determine if there are areas that may require further consideration or injection work to adequately distribute the ZVI within the PRB.

In addition, prior to injecting into the bedrock injection wells, packers will be placed and inflated at the bottom of the casing interval in the weathered bedrock/top of rock injection well to eliminate this as a preferential pathway and potential for daylighting.

It should be noted that the ZVI PRB is expected to effectively treat most chlorinated COCs and the remedy will rely on natural biodegradation process to decay COCs that are not treated or poorly treated with ZVI. Site natural attenuation process were identified to be evident during the RI and subsequent testing and monitoring of the P-1 Plume throughout the investigation/remedy selection process specified in the ROD. The monitoring of groundwater downgradient from the PRB will demonstrate the effectiveness of natural decay and attenuation processes.

### 7.3 *Monitored Natural Attenuation/PRB Monitoring*

As indicated in the ROD, MNA is required for groundwater impacts downgradient of the PRB. This sampling will be integrated with the monitoring of the PRB specified in the Site Management Plan (SMP). MNA potential was evaluated in the Feasibility Study. In accordance with EPA *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water dated September 1998 ("EPA Technical Protocol")* a preliminary analysis was performed using the data collected during the RI (May 2017 low-flow sampling event compared to data obtained previously in 2000 and 2010) to determine if biodegradation is occurring. In accordance with the EPA Technical Protocol there is *"Adequate Evidence for anaerobic biodegradation (reductive dechlorination) of chlorinated organics".* Additionally, CSIA results indicate natural transformation of parent material (PCE and TCE) to daughter products is occurring as well as a reduction in chlorinated ethane constituents. In addition, as indicated previously BTEX compounds are also present at the Site and will be included in the monitoring program. The BTEX compounds have not migrated to the extent of the CVOCs and have attenuated prior to the property boundary.

MNA sampling will be completed semi-annually for two (2) years. Monitoring for the initial two (2) years is summarized below. Twelve (12) wells will be sampled via low-flow techniques using a bladder pump. Water quality parameters including temperature, pH, conductivity, dissolved oxygen, ORP, and turbidity will be collected at 5 minute intervals until stabilized and less than 10 NTU is achieved for turbidity (unless equilibrium is achieved for all other parameters and no improvement in sample turbidity is expected with additional purging). The following wells will be sampled years 1-2:

| Well | Pump Intake Depth (ft. below top of casing) | Approx. Pump Intake Elevation (fmsl) | Parameters |
|---|---|---|---|
| P-1 | 30 | 515 | • TCL VOCs<br>• Sulfate<br>• Sulfide<br>• Iron II<br>• Nitrate<br>• Nitrite<br>• Ethane<br>• Ethene<br>• Chloride |
| LAB-DBW-01 | 62 | 481 | |
| LAB-DBW-02 | 64 | 488 | |
| LAB-SBW-05 | 30 | 516 | |
| LAB-SBW-09 | 25 | 519 | |
| LAB-SBW-12 | 30 | 517 | |
| LAB-SBW-14 | 25 | 519 | |
| LAB-SBW-17 | 35 | 522 | |
| LAB-SBW-18 | 35 | 518 | |
| LAB-SBW-19 | 38 | 511 | |
| LAB-SBW-20 | 30 | 519 | |
| GMX-MW-3 | 28 | 516 | |

Note: Shaded wells above are downgradient from the PRB and will be utilized to demonstrate performance of the remedy.

The samples will be analyzed by an Environmental Laboratory Accreditation Program (ELAP) certified laboratory and an ASP Category B Deliverable will be provided. In addition, electronic data deliverables will be submitted to the NYSDEC. Data Usability Summary Reports will not be completed unless the data is determined to be 'final data' for any specific monitoring well, in which case a DUSR will be obtained to confirm the data is valid.

The SMP will include the requirements (frequency, wells, parameters, etc.) on the long-term monitoring program (i.e., beyond the initial 2 years).

An annual Periodic Review Report (PRR) will be completed with the data collected during that reporting period

# 8.0 ENGINEERING AND INSTITUTIONAL CONTROLS

## 8.1 *Engineering Controls*

Engineering controls (ECs) for the Site are summarized below. The ECs will be detailed in the Site Management Plan (SMP).

### *8.1.1 Operation and Maintenance of PRB*

An Operation and Maintenance (O&M) Plan will be developed and included in the SMP (refer to Section 8.2.1). O&M will include the following:

- Periodic (e.g., annual) inspections of the injection wells and monitoring wells. Repair of any damaged wells/ replacement of locks as needed.
- Replenishment of the ZVI which is estimated to be after 15 years. The need to replenish ZVI will be based on groundwater monitoring results and may include only portions necessary based on the results.

### *8.1.2 Maintenance of Cover System*

The cover system will be visually evaluated annually for settling, erosion or other evidence of compromise to the cover constructed as part of the final remedy (refer to Section 7.1). If there is damage that impacts the ability of the cover to be protective of human health and the environment, it will be repaired as needed. Any work that disturbs the cover will be completed in accordance with the SMP (refer to Section 8.2.1).

### *8.1.3 Vapor Mitigation*

Several vapor mitigation systems are installed in buildings on the FESL. In accordance with The *Former Emerson Street Landfill Sub-Slab Ventilation Guidance Document Update 2013* by LaBella dated October 2013, future buildings constructed on the FESL will be evaluated for soil vapor intrusion, or a mitigation system will be installed during construction. The City currently has a technical assistance program to property owners on the FESL which provides assistance for vapor intrusion evaluation and mitigation system design/ installation. Prior to any building being constructed, a sub-slab depressurization system (SSDS) design will be submitted to NYSDEC for approval.

## 8.2 *Institutional Controls*

Institutional controls (ICs) for the Site are summarized below. The ICs will be detailed in the Site Management Plan (SMP).

### *8.2.2 Site Management Plan*

Two (2) guidance documents have been developed for the FESL:

- *Former Emerson Street Landfill Sub-Slab Ventilation Guidance Document Update 2013* by LaBella dated October 2013- This document provides guidance on evaluating and mitigating SVI for buildings on the FESL. This document will be implemented for any buildings constructed at the Site in the future.
- *Guidance for Waste-fill Management During Site Development on the Former Emerson Street Landfill* by LaBella dated October 2013- This document provides guidance on identifying, handling, managing and disposing of fill material associated with the FESL. This document will be implemented during any subsurface work at the Site.

All properties on the FESL are flagged in the City's permit system which prevents permit issuance without consideration for FESL-related concerns including fill material and the potential for SVI. City Division of Environmental Quality staff review permit requests for properties on the FESL to ensure the appropriate ICs/ ECs are implemented.

In addition to the existing guidance documents which will remain in effect for the landfill, a SMP will be developed specifically for 1700 Emerson Street which will detail the ICs/ECs and provide an Operation and Maintenance Plan for the PRB. The SMP will also specify long-term monitoring and reporting requirements.

### *8.2.3 Environmental Easement*

An environmental easement will be developed for 1700 Emerson Street which will

- require the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allow the use and development of the controlled property for commercial or industrial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and,
- require compliance with the Department approved Site Management Plan.

It should be noted that the use of groundwater in the City is prohibited by City code.

## 9.0 WASTE STORAGE AND DISPOSAL

*Liquid Waste*
Wastewater generated during implementation of the remedy (purge water, decon water, etc.) will be stored on-Site. Water will be stored in 55-gallon drums or larger containers (e.g., frac tank). Drums will be labeled with the contents. The water will be characterized and disposed of under a temporary sewer use permit to the Monroe County Pure Water sewer system. If necessary the water will be treated with carbon to achieve the sewer use limits. In the event carbon is utilized, it will be sent off-site for regeneration or disposal as appropriate.

*Soil/Fill/Bedrock*
Drill cuttings obtained from the blast holes and injection wells will be staged on poly and covered with poly. The cuttings will be screened any cuttings exhibiting gross contamination (elevated PID readings or strong odors) will be segregated from the remaining cuttings. The cuttings will be characterized by collecting samples and analyzing for full Toxicity Characteristic Leachate Procedure (TCLP) testing. In the event that the material is deemed non-hazardous waste, the cuttings will be spread on-site to the north of the PRB and placed beneath the demarcation layer and covered with the clean soils. In the event a sample fails TCLP testing, the material will be hauled off-site by Part 364 permitted trucks to an appropriately permitted landfill.

## 10.0 HEALTH AND SAFETY PLAN

A Health and Safety Plan (HASP) similar to that developed for the Pilot Test will be implemented during the remedy implementation. The HASP includes procedures specific to this Work Plan (e.g., ZVI handling procedures, bedrock blasting, etc.). LaBella's HASP is included as Appendix 3. Contractors will be responsible for development and implementation of their own HASP.

## 11.0 COMMUNITY AIR MONITORING PLAN

The New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan (CAMP) will be implemented during all intrusive subsurface work. The CAMP is included as Appendix 4.

## 12.0 QUALITY CONTROL PLAN

LaBella's Quality Control Program (QCP) included as Appendix 5 will be implemented. Quality assurance/ quality control (QA/QC) sampling will be conducted for all VOC samples. QA/QC sampling will not be conducted for waste characterization sampling or groundwater quality parameters. QA/QC sampling will include one (1) blind duplicate and one (1) matrix spike/ matrix spike duplicate (MS/MSD) for every 20 samples or per sampling event, and one (1) trip blank for every shipment of groundwater samples.

ASP Category B deliverables and EQUIS Electronic Data Deliverables (EDDs) will be provided by the laboratory. VOC data will be validated by a third party validator; the remaining parameters are considered water quality parameters and will not be validated. LaBella will enter the data to NYSDEC's EQUIS system.

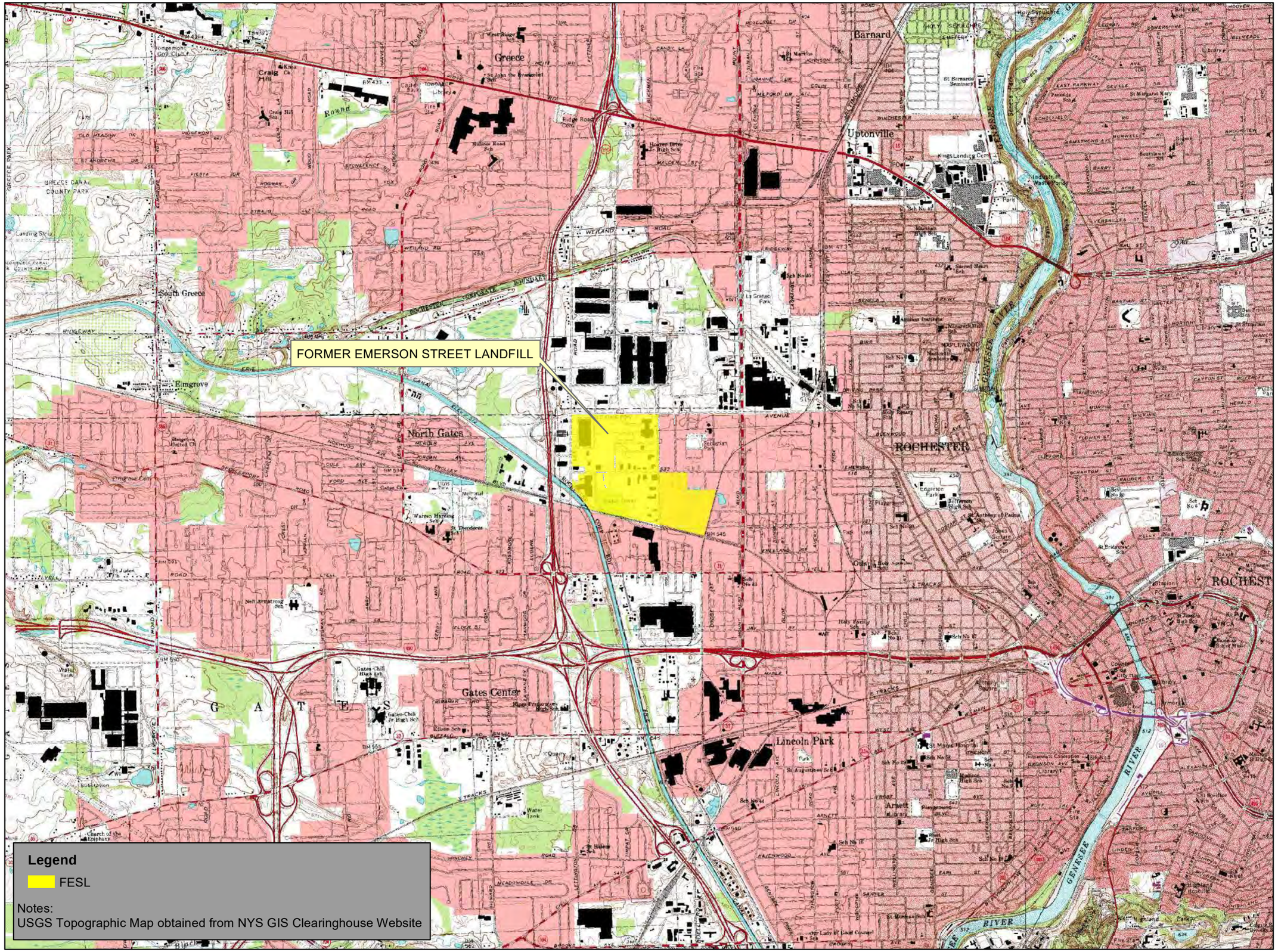
## 13.0 SCHEDULE AND DELIVERABLES

Following completion of the remedy, a FER will be completed detailing the cover system and PRB installation. The FER will include as-built drawings of the final remedy. A SMP will be developed detailing ongoing monitoring and reporting requirements and ECs/ ICs for the Site. The SMP will include an Operation, Maintenance and Monitoring Plan for the PRB.

An estimated schedule for the remedial work is outlined below. The schedule will be dependent on contractor availability and schedule.

| | |
|---|---|
| June 2021 – August 2021 | Install PRB |
| September 2021 – November 2021 | Construct Cover System |
| December 2021 | FER & SMP |

# FIGURES

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REMEDIAL ACTION
WORK PLAN
P-1 PLUME AREA
FORMER EMERSON
STREET LANDFILL
NYSDEC SITE #828023

CITY OF ROCHESTER

SITE LOCATION MAP

N
W E
S

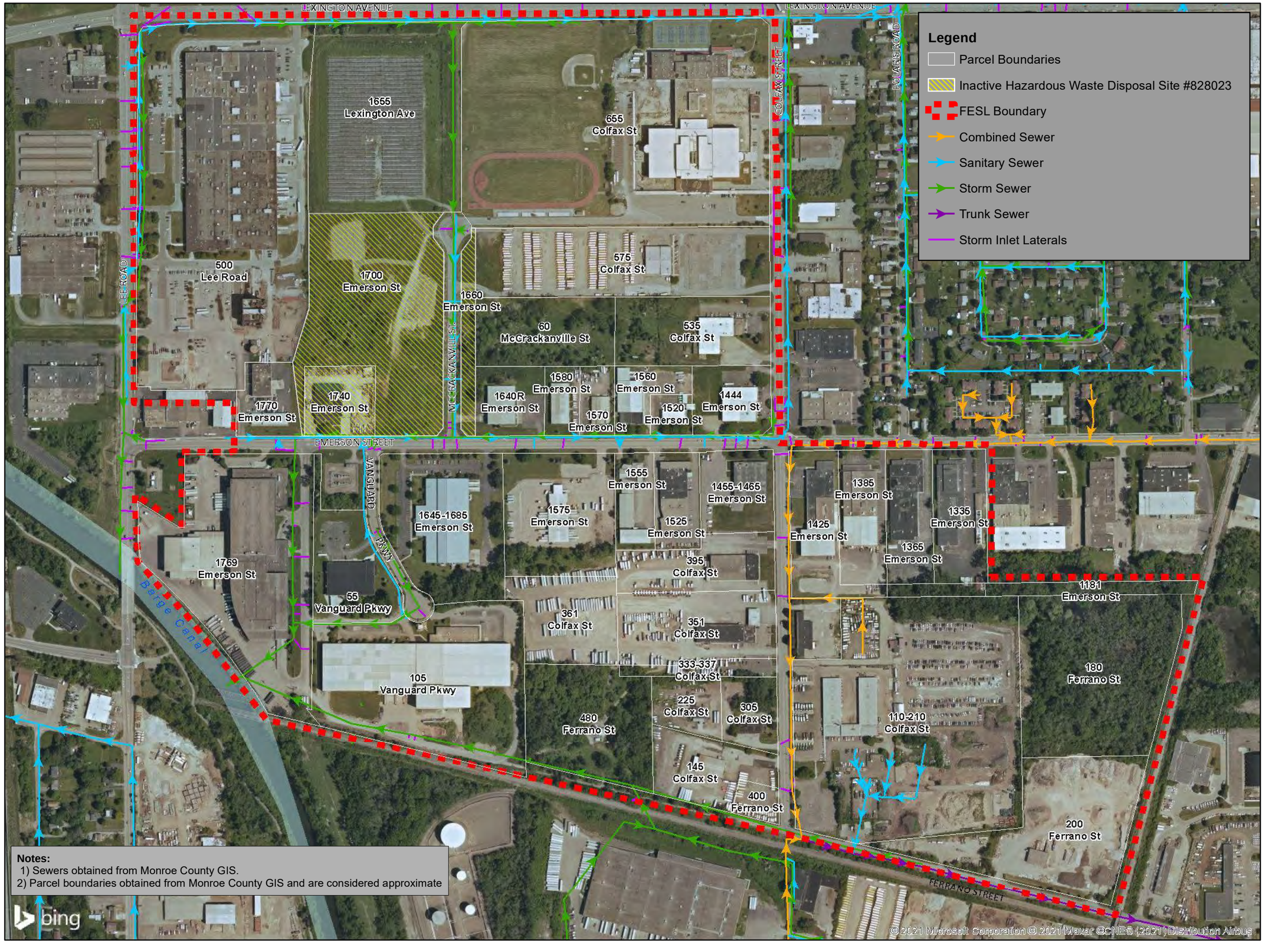
0 1,500 3,000
Feet

1 inch = 3,000 feet
Intended to print as 11x17

210173

FIGURE 1

\\Projects2\ProjectsNZ-2\Rochester, City\210173 FESL\Drawings\RAWP\Figure 1- Site Location.mxd

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REMEDIAL ACTION
WORK PLAN
P-1 PLUME AREA
FORMER EMERSON
STREET LANDFILL
NYSDEC SITE #828023

CITY OF ROCHESTER

FORMER EMERSON STREET
LANDFILL FOOTPRINT

N
W E
S

0 400 Feet

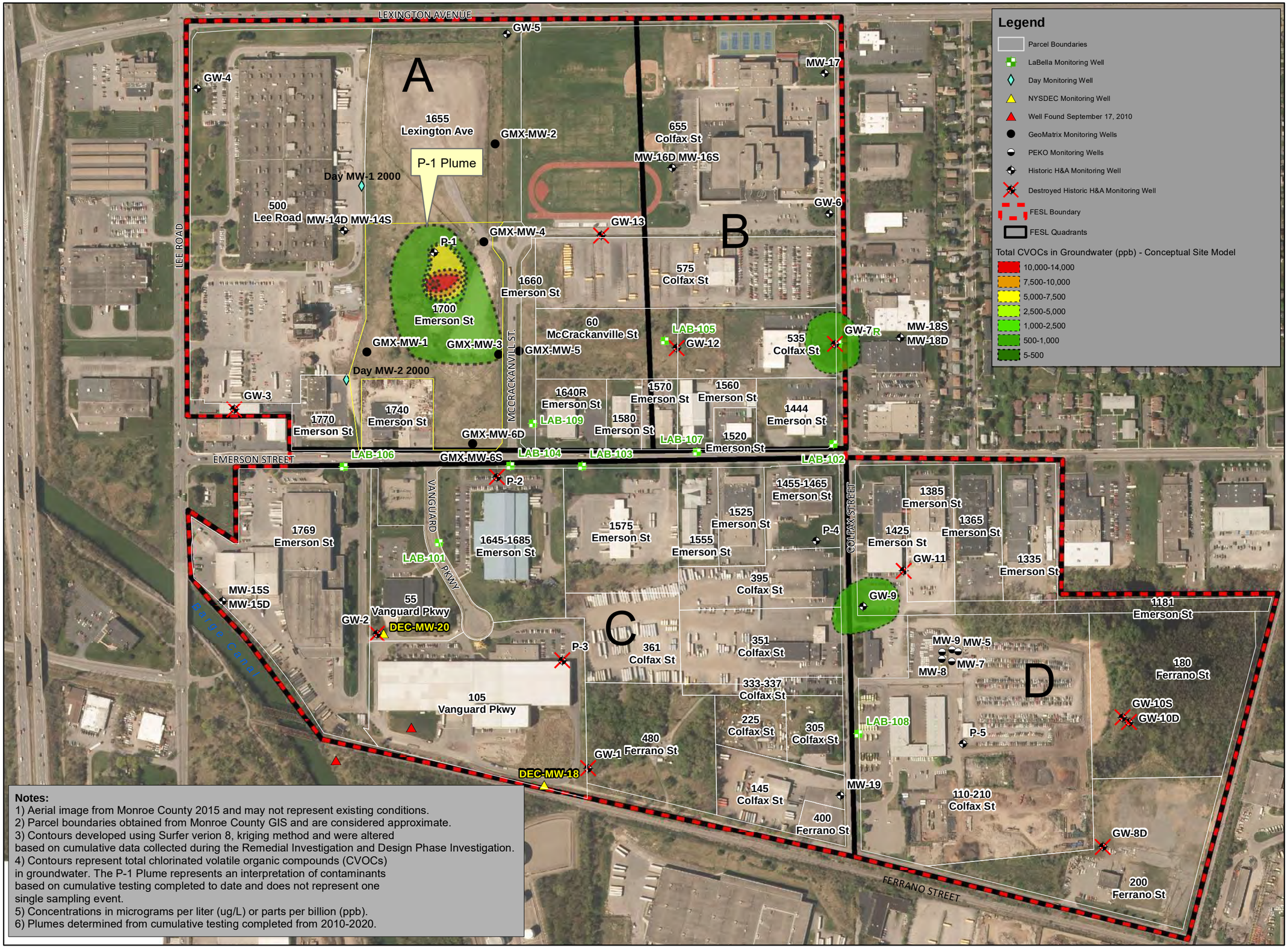
1 inch = 400 feet

Intended to print as 11x17

210173

FIGURE 2

\\Projects2\Projects\NZ-2\Rochester, City\210173 FESL\Drawings\RAWP\Figure 2- FESL Boundary.mxd




**Notes:**
1) Aerial image from Monroe County 2015 and may not represent existing conditions.
2) Parcel boundaries obtained from Monroe County GIS and are considered approximate.
3) Contours developed using Surfer verion 8, kriging method and were altered based on cumulative data collected during the Remedial Investigation and Design Phase Investigation.
4) Contours represent total chlorinated volatile organic compounds (CVOCs) in groundwater. The P-1 Plume represents an interpretation of contaminants based on cumulative testing completed to date and does not represent one single sampling event.
5) Concentrations in micrograms per liter (ug/L) or parts per billion (ppb).
6) Plumes determined from cumulative testing completed from 2010-2020.

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REMEDIAL ACTION
WORK PLAN
FORMER EMERSON
STREET LANDFILL
NYSDEC SITE #828023

CITY OF ROCHESTER

FESL MONITORING WELL
LOCATIONS AND KNOWN
CVOC PLUMES

N
W E
S

0 400 Feet
1 inch = 400 feet

Intended to print as 11x17

210173

FIGURE 3

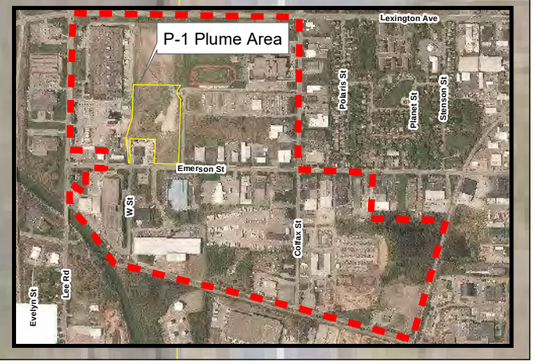
Path: \\Projects2\ProjectsNZ-2\Rochester, City\210173 FESL\Drawings\RAWP\Figure 3- FESL Well Locations and Plumes.mxd

2013-SB-07
2013-SB-06
LAB-SBW-01
2013-SB-03
2017-SB-27
2013-SB-05
2017-SB-26
2013-SB-04
2017-SB-29
LAB-SBW-11
2013-SB-13
2013-SB-10
2017-SB-28
GMX-MW-4
2013-SB-17
2013-SB-02
2013-SB-01
2013-SB-14
LAB-OBW-01
2016-SB-24
2016-SB/MW-22
2013-SB-08
P-1
2013-SB-15
LAB-SBW-03
LAB-SBW-08
LAB-DBW-01
2016-SB/MW-18
2013-SB-11
2016-SB-23
2013-SB-16
2013-SB-12
LAB-SBW-02
2017-SB-30
LAB-SBW-04
2016-SB/MW-20
2016-SB/MW-19
LAB-SBW-06
2017-SB-32
2016-SB-25
LAB-SBW-10
2016-SB/MW-21
LAB-SBW-13
2013-SB-09
2017-SB-31
LAB-DBW-02
2017-SB-33
LAB-SBW-05
LAB-SBW-09
LAB-SBW-12
LAB-SBW-07
LAB-SBW-14
LAB-SBW-20
LAB-SBW-16
LAB-SBW-15

## Legend

- Soil Boring
- Soil Boring with Overburden Well
- Interface Well
- Shallow Bedrock Well
- Deep Bedrock Well
- Geomatrix Bedrock Well
- 1700 Emerson Street

Notes:
1) Aerial image from Google Earth 2018.
2) Parcel boundaries obtained from Monroe County GIS and are considered approximate.
3) Testing locations were located using a GPS.

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REMEDIAL ACTION WORK PLAN
FORMER EMERSON STREET LANDFILL
NYSDEC SITE #828023

CITY OF ROCHESTER

P-1 PLUME AREA
CUMULATIVE SOIL BORINGS AND MONITORING WELLS

N
W E
S

0 50
Feet

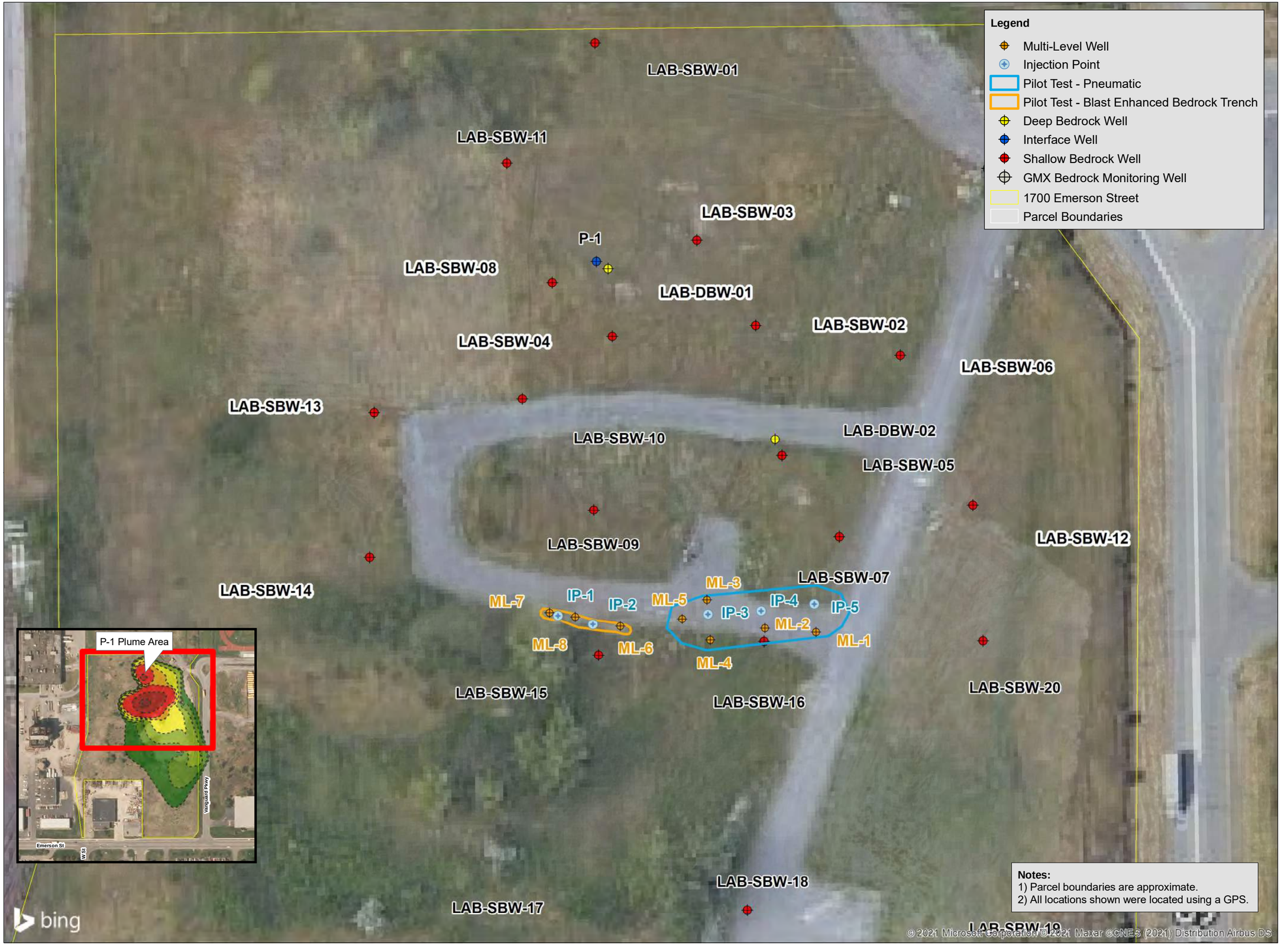
1 inch = 50 feet

Intended to print on 11x17

210173

FIGURE 4

Path: \\Projects2\Projects\NZ-2\Rochester, City\210173 FES\LDrawings\RAWP\Figure 4- Cumulative Testing Locations.mxd




Path: \\Projects2\Projects\NZ-2\Rochester, City\210173 FES\LDrawings\RAWP\Figure 4A - Well Locations and Pilot Test.mxd

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REMEDIAL ACTION
WORK PLAN
FORMER EMERSON STREET
LANDFILL

1700 EMERSON STREET
CITY OF ROCHESTER

P-1 Monitoring Wells
& Pilot Test Wells

N
W E
S

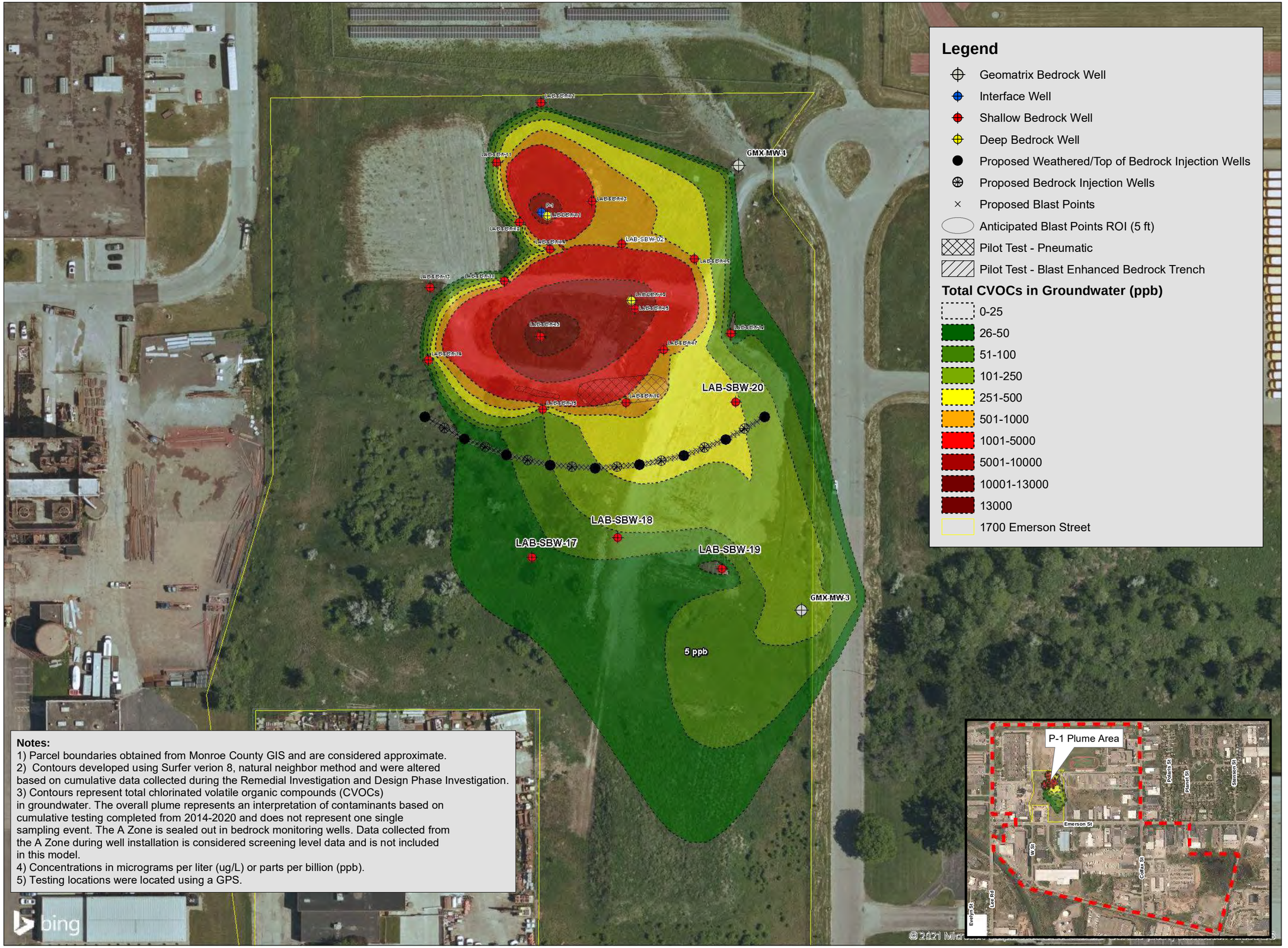
0 50
Feet

1 inch = 50 feet

Intended to print on 11x17

210173

FIGURE 4A




## Legend

- Geomatrix Bedrock Well
- Interface Well
- Shallow Bedrock Well
- Deep Bedrock Well
- Proposed Weathered/Top of Bedrock Injection Wells
- Proposed Bedrock Injection Wells
- Proposed Blast Points
- Anticipated Blast Points ROI (5 ft)
- Pilot Test - Pneumatic
- Pilot Test - Blast Enhanced Bedrock Trench

**Total CVOCs in Groundwater (ppb)**

- 0-25
- 26-50
- 51-100
- 101-250
- 251-500
- 501-1000
- 1001-5000
- 5001-10000
- 10001-13000
- 13000
- 1700 Emerson Street

**Notes:**
1) Parcel boundaries obtained from Monroe County GIS and are considered approximate.
2) Contours developed using Surfer verion 8, natural neighbor method and were altered based on cumulative data collected during the Remedial Investigation and Design Phase Investigation.
3) Contours represent total chlorinated volatile organic compounds (CVOCs) in groundwater. The overall plume represents an interpretation of contaminants based on cumulative testing completed from 2014-2020 and does not represent one single sampling event. The A Zone is sealed out in bedrock monitoring wells. Data collected from the A Zone during well installation is considered screening level data and is not included in this model.
4) Concentrations in micrograms per liter (ug/L) or parts per billion (ppb).
5) Testing locations were located using a GPS.

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FORMER EMERSON STREET LANDFILL
NYSDEC SITE #828023

CITY OF ROCHESTER

PERMEABLE REACTIVE BARRIER
(BLAST ENHANCED BEDROCK TRENCH)

N
W E
S

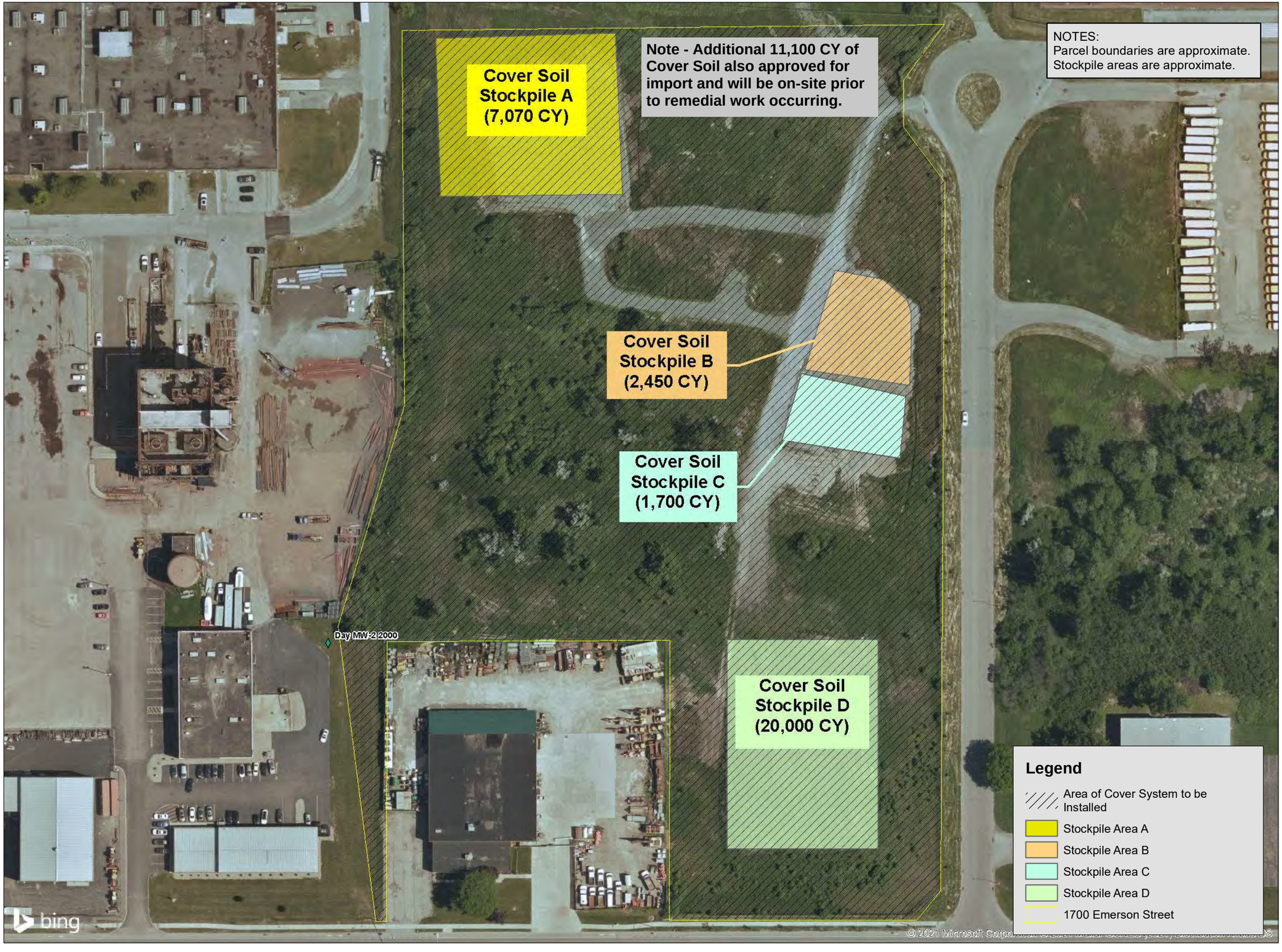
0 100
Feet
1 inch = 100 feet

Intended to print on 11x17

210173

FIGURE 5

Path: \\Projects2\Projects\NZ-2\Rochester, City\210173 FESL\Drawings\RAWP\Figure 5 - PRB Trench.mxd




Path: \\Projects2\Projects\NZ-2\Rochester, City\210173 FESL\Drawings\RAWP\Figure 6 - Cover System.mxd

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REMEDIAL ACTION
WORK PLAN
FORMER EMERSON
STREET LANDFILL
NYSDEC SITE #828023

CITY OF ROCHESTER

COVER SYSTEM

N
W E
S

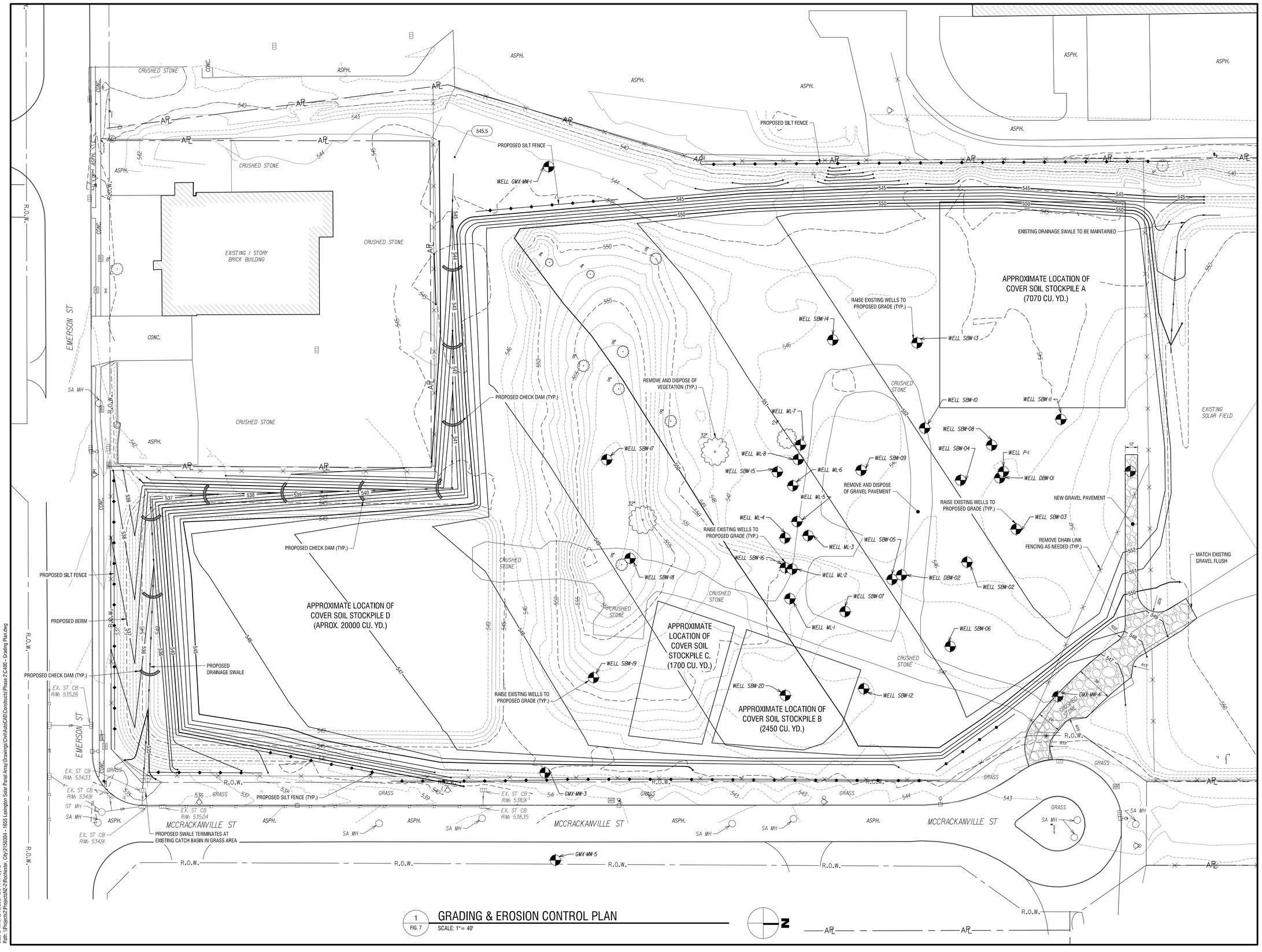
0 100
Feet

1 inch = 100 feet

Intended to print on 11x17

210173

FIGURE 6




1 FIG. 7 GRADING & EROSION CONTROL PLAN

SCALE: 1"= 40'

Date & Time: 2/19/2021 2:34 PM By: Z
Path: \Projects\Projects\MCP\Rochester_City\2150304 - 1655 Lexington Solar Panel Array\Drawings\Civil\AutoCAD\Constructs\Phase 2\C400 - Grading Plan.dwg

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Rochester, NY 14614
585-454-6110

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STATE OF NEW YORK
DANIEL P. NOLL
No. 081996
LICENSED PROFESSIONAL ENGINEER



**CITY OF ROCHESTER**

30 CHURCH ST.
ROCHESTER, NY 14614

FLOUR CITY-FLOWER CITY-CITY OF ROCHESTER®

**EMERSON ST GRADING**

1655 LEXINGTON AVE
ROCHESTER, NY, 14606

| NO: | DATE: | DESCRIPTION: |
|---|---|---|
| -- | -- | -- |
| REVISIONS | | |

PROJECT NUMBER: 210173

DRAWN BY: BER

REVIEWED BY: DB

ISSUED FOR: REMEDIAL ACTION WORK PLAN

DATE: FEBRUARY, 2021

DRAWING NAME:

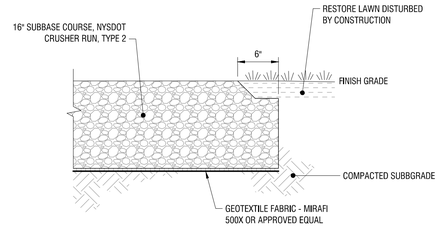
**GRADING PLAN & EROSION CONTROL PLAN**

DRAWING NUMBER:

# FIG. 7

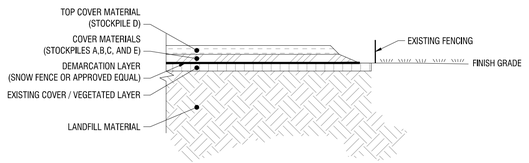
## NOTES

1. A PRE-CONSTRUCTION MEETING WILL BE CONDUCTED WITH THE CITY OF ROCHESTER, CONTRACTORS, AND NYSDEC PRIOR TO INITIATING WORK.
2. EROSION CONTROL MEASURES WILL BE INSTALLED AS SHOWN PRIOR TO INITIATING SOIL DISTURBANCES.
3. CLEARING AND GRUBBING OF BRUSH, SHURBS, AND OTHER DEBRIS, WILL BE COMPLETED PRIOR TO SOIL COVER CONSTRUCTION.
4. ALL EROSION CONTROL MEASURES WILL BE INSPECTED AT LEAST WEEKLY AND CLEANED/MAINTAINED AS NECESSARY. ROADWAYS, DRIVES, AND PARKING AREAS WILL BE CLEANED AS NECESSARY.
5. PRELIMINARY GRADING USING EXISTING SOIL ON SITE WILL BE CONDUCTED PRIOR TO PLACING COVER MATERIAL. EXISTING COVER SOILS WILL BE PROTECTED FOR FUTURE PLACEMENT DURING GRADING.
6. PRIOR TO PLACING DEMARCATION LAYER OR FINAL COVER SOILS, ELEVATION DATA WILL BE COLLECTED TO CONFIRM FINAL COVER SOIL MEETS OR EXCEEDS 1-FT IN DEPTH. ALTERNATIVELY GRADE STAKES MAY ALSO BE UTILIZED. COVER THICKNESS (PRE/POST ELEVATION DATA) OR GRADE STAKES WILL BE COLLECTED/PLACED APPROXIMATELY EVERY 50-FT (GRID PATTERN).
7. A DEMARCATION LAYER (E.G., SNOW FENCING OR APPROVED EQUAL) WILL BE INSTALLED ON SURFACE PRIOR TO PLACING CLEAN COVER MATERIALS FROM STOCKPILES.
8. SOILS FROM STOCKPILE D WILL BE PLACED LAST AND PLACED OVER ALL OTHER COVER MATERIAL SOILS.
9. WITHIN 1 WEEK OF PLACING FINAL COVER SOIL (STOCKPILE D) THE AREA WILL HAVE PERMANENT SEEDING, FERTILIZER, AND MULCH PLACED (OR HYDROSEED).
10. ALL ACCUMULATED SILT OR SEDIMENT FROM SILT FENCE, CHECK DAMS, INLET PROTECTION, AND SEDIMENT BASINS WILL BE PLACED BELOW FINAL COVER SYSTEM (INCLUDING DEMARCATION LAYER) PRIOR TO PLACING COVER.
11. SUBSEQUENT TO COMPLETING COVER SYSTEM ALL INCIDENTAL CONSTRUCTION MATERIALS THAT ARE NOT INCORPORATED INTO THE WORK WILL BE PROPERLY DISPOSED OFFSITE.
12. SUBSEQUENT TO STABILIZATION (APPROXIMATELY 80% VEGETATED) EROSION CONTROL PRACTICES WILL BE REMOVED AND DISPOSED OF OFF-SITE.
13. ALL WORK TO BE COMPLETED BY OSHA-40-HR HAZWOPER TRAINED PERSONNEL.
14. COMMUNITY AIR MONITORING TO BE COMPLETED DURING ALL SOIL/FILL DISTURBANCES.
15. EXISTING MONITORING WELLS WILL BE PROTECTED DURING CONSTRUCTION OF WORK AND WELLS WILL BE RAISED AS NEEDED FOR FUTURE USE.
16. FUTURE WELLS ARE NOT SHOWN, BUT WILL ALSO BE PROTECTED.



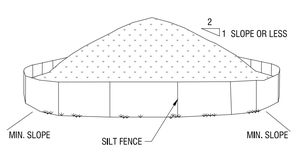

4 FIG. 8 GRAVEL PAVEMENT SECTION

N.T.S.




5 FIG. 8 COVER SYSTEM SECTION

N.T.S.

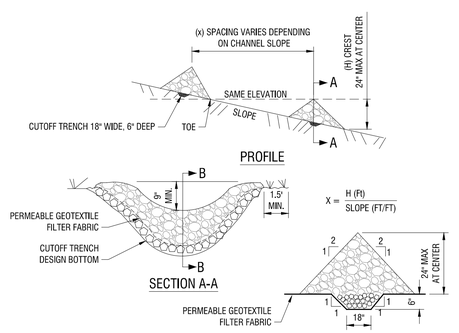



NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1V:2H.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SEE SPECIFICATIONS AND DETAIL FOR INSTALLATION OF SILT FENCE.

3 FIG. 8 TEMPORARY SOIL STOCKPILE

N.T.S.




NOTES:

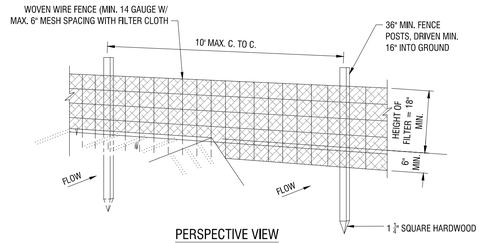
1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET SPACING OF CHECK DAMS TO ASSUME THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS THE SAME ELEVATION OF THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT OUTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.

SYMBOL

MAXIMUM DRAINAGE AREA 2 ACRES.

2 FIG. 8 STONE CHECK DAM

NYS DEC DETAIL: STONE CHECK DAM




SYMBOL

NOTES:

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABLINKA 140N, OR APPROVED EQUAL.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

1 FIG. 8 SILT FENCE

NYS DEC DETAIL: SILT FENCE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**EMERSON ST GRADING**

1655 LEXINGTON AVE
ROCHESTER, NY, 14606

| -- | -- | -- |
|---|---|---|
| NO: | DATE: | DESCRIPTION: |
| REVISIONS | | |

PROJECT NUMBER: 210173

DRAWN BY: BER

REVIEWED BY: DB

ISSUED FOR: REMEDIAL ACTION WORK PLAN

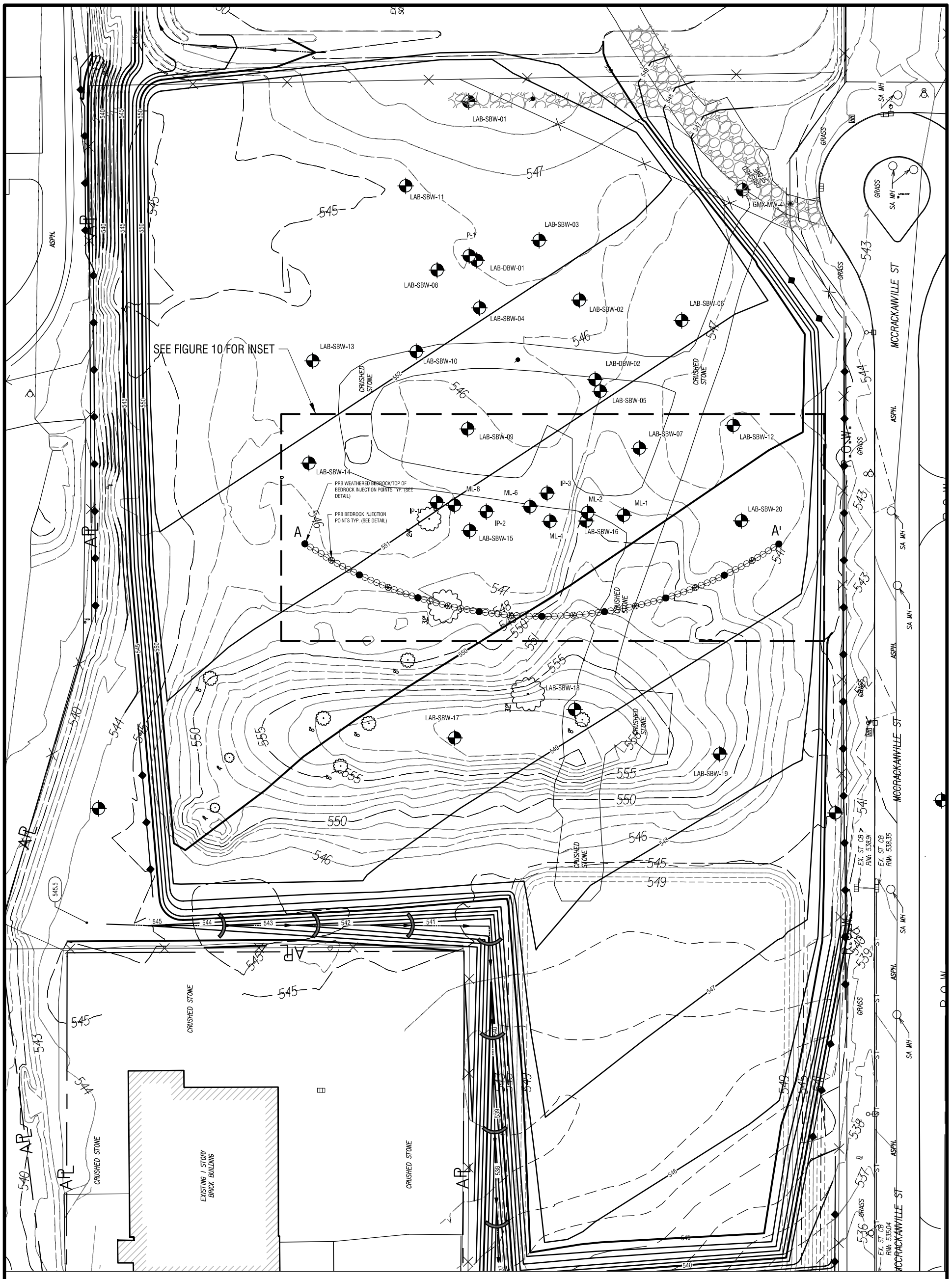
DATE: FEBRUARY, 2021

DRAWING NAME:

**CONSTRUCTION DETAILS AND GENERAL NOTES**

DRAWING NUMBER:

**FIG. 8**




1 PRB Plan

SCALE: 1"= 75'

N

LEGEND

- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPERTY LINE
- ENV TESTING LOCATION
- BEDROCK INJECTION WELL
- WEATHERED BEDROCK/TOP OF BEDROCK INJECTION WELL

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ISSUED FOR: REMEDIAL ACTION WORK PLAN

DRAWING NAME: PRB PLAN VIEW

DRAWN BY:

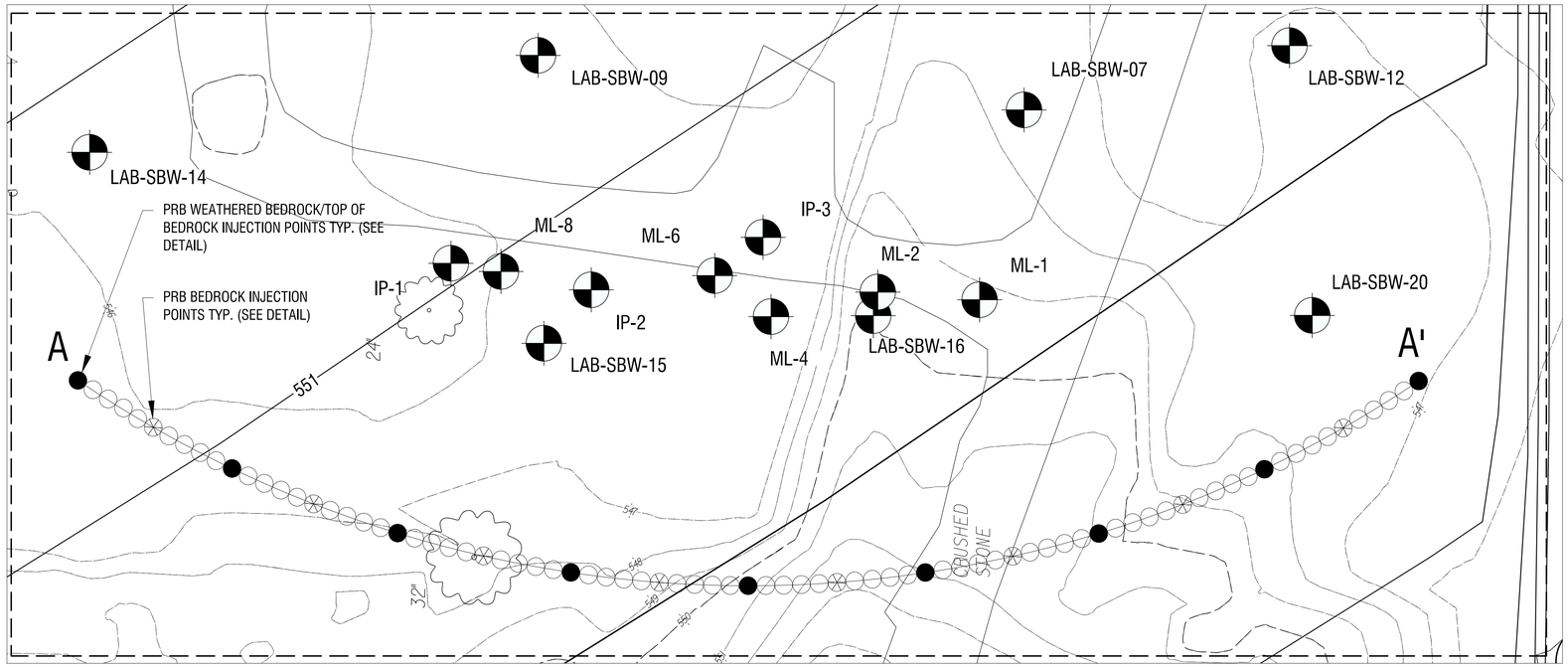
DATE: 2/24/2021

PROJECT NO.: 210173

PROJECT NAME: **REMEDIAL ACTION PLAN**
1700 EMERSON ST, CITY OF ROCHESTER

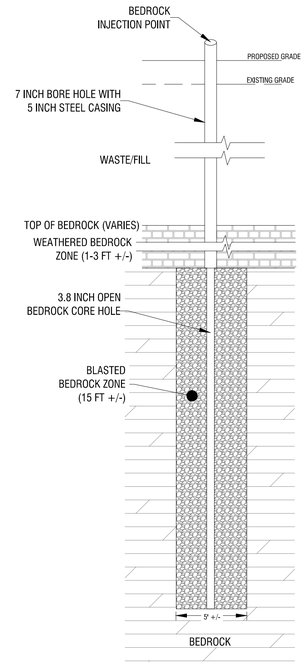
DRAWING NUMBER: FIGURE 9

VERSION 19.0
6/3/2010 8:47:56 AM



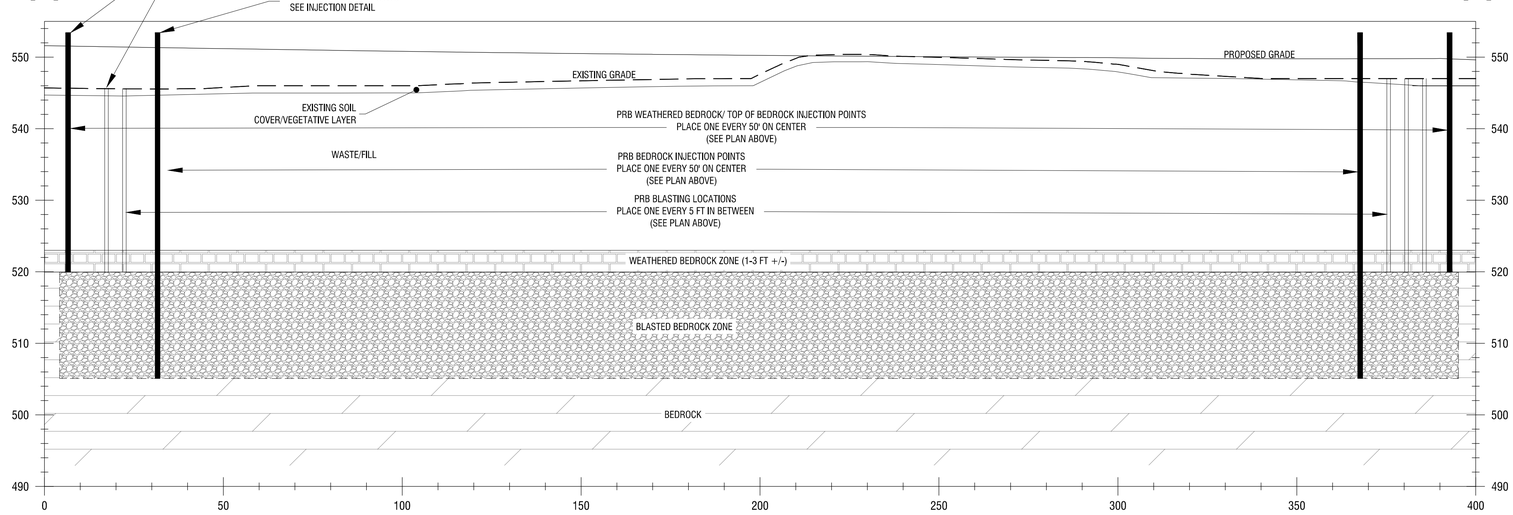

LEGEND

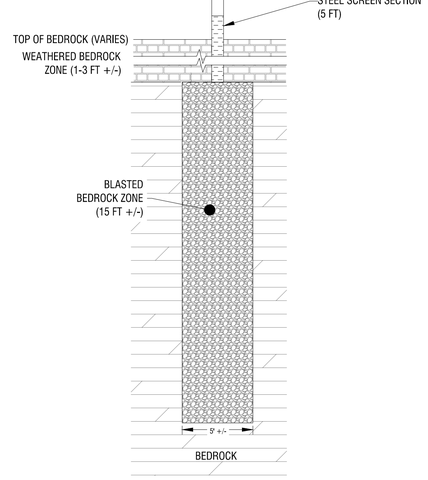
- EXISTING MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPERTY LINE
- ENV TESTING LOCATION
- BEDROCK INJECTION WELL
- WEATHERED BEDROCK/TOP OF BEDROCK INJECTION WELL




## BEDROCK INJECTION DETAIL

SCALE: NTS




NOTE: WEATHERED BEDROCK/TOP OF BEDROCK INJECTION POINTS MAY NOT BE INSTALLED IF CONDUCTED VIA DIRECT INJECTION

## WEATHERED BEDROCK/ TOP OF BEDROCK INJECTION DETAIL

SCALE: NTS

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585-454-6110

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STATE OF NEW YORK DANIEL P. NOLL No. 091898 LICENSED PROFESSIONAL ENGINEER



**CITY OF ROCHESTER**

FLOUR CITY-FLOWER CITY-I.N. CITY OF ROCHESTER

**REMEDIAL ACTION PLAN**

1700 EMERSON ST
ROCHESTER, NEW YORK

| NO: | DATE: | DESCRIPTION: |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Revisions

PROJECT NUMBER: 210173

DRAWN BY:

REVIEWED BY:

ISSUED FOR: REMEDIAL ACTION WORK PLAN

DATE: 2/24/2021

DRAWING NAME:

PRB PLAN AND CROSS SECTIONS AND DETAIL

DRAWING NUMBER:

FIGURE 10

VERSION 19.0
6/3/2019 8:47:56 AM

# TABLES

**Former Emerson Street Landfill**
**P-1 Design Phase Investigation**
**Table 1**
**Detected Volatile Organic Compounds (VOCs) in Bedrock page 1 of 6**
**All Results in Micrograms per Kilogram (ug/kg) or Parts Per Billion (PPB)**

| Sample ID | LAB-SBW-01 | | LAB-SBW-02 | | LAB-SBW-02 | | LAB-SBW-03 | | LAB-SBW-03 | | LAB-SBW-04 | | LAB-SBW-04 | | LAB-SBW-05 | | LAB-SBW-05 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ground Surface Elevation (Feet)** | **547.39** | | **545.15** | | **545.15** | | **545.20** | | **545.20** | | **546.18** | | **546.18** | | **547.51** | | **547.51** | |
| **Sample Elevation Interval (Feet)** | **516.89-517.29** | | **519.10-519.40** | | **514.15-514.45** | | **519.60-520.00** | | **515.85-516.10** | | **520.98-521.18** | | **511.68-511.93** | | **522.76-523.01** | | **517.16-517.21** | |
| **Sample Depth Below Grade (Feet)** | **30.1-30.5'** | | **25.75-26.05'** | | **30.7-31'** | | **25.2-25.6'** | | **29.1-29.35'** | | **25-25.2'** | | **34.25-34.5'** | | **24.5-24.75'** | | **30.3-30.35'** | |
| **Zone** | **Upper B** | | **A** | | **Upper B** | | **A** | | **Upper B** | | **A** | | **B** | | **A** | | **Upper B** | |
| **Date Collected** | **12/31/2013** | | **12/9/2013** | | **1/2/2014** | | **1/6/2014** | | **1/8/2014** | | **1/14/2014** | | **1/15/2014** | | **1/16/2014** | | **1/17/2014** | |
| **Chlorinated VOCs** | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ND | H | ND | H | ND | H | 2,000 | H | ND | H | ND | H | ND | H | ND | H | 5,700 | H |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (freon-113) | ND | H | ND | H | ND | H | 4,100 | H | ND | H | ND | H | ND | H | 77 | JH | 16,000 | H |
| 1,1-Dichloroethane | ND | H | ND | H | ND | H | 260 | H | 21 | JH | 200 | JH | ND | H | 180 | JH | 2,200 | JH |
| 1,1-Dichloroethene | ND | H | ND | H | ND | H | 130 | JH | ND | H | 21 | JH | ND | H | ND | H | ND | H |
| 1,2-Dichloroethane | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H |
| 1,4-Dichlorobenzene | ND | H | ND | H | ND | H | 8 | JH | ND | H | ND | H | ND | H | ND | H | ND | H |
| cis-1,2-Dichloroethene | ND | H | 22,000 | H | ND | H | 1,200 | H | ND | H | 2,000 | H | ND | H | 480 | H | 2,100 | JH |
| Tetrachloroethene | ND | H | 1,700 | JH | ND | H | 5,600 | H | ND | H | ND | H | ND | H | ND | H | 60,000 | H |
| trans-1,2-Dichloroethene | ND | H | ND | H | ND | H | 27 | H | ND | H | ND | H | ND | H | 15 | JH | ND | H |
| Trichloroethene | ND | H | 89,000 | H | 52 | JH | 1,500 | H | 18 | JH | 1,200 | H | ND | H | 110 | JH | 23,000 | H |
| Vinyl chloride | ND | H | ND | H | ND | H | 46 | JH | ND | H | 76 | JH | ND | H | ND | H | ND | H |
| **TOTAL CVOCS** | **ND** | | **112,700** | | **52** | | **14,871** | | **39** | | **3,497** | | **ND** | | **862** | | **109,000** | |
| BTEX VOCs | | | | | | | | | | | | | | | | | | |
| Benzene | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | 12 | JH | ND | H |
| Toluene | ND | H | ND | H | ND | H | 4900 | H | ND | H | ND | H | ND | H | 92 | JH | 8600 | H |
| Ethyl Benzene | ND | H | ND | H | ND | H | 58 | JH | ND | H | ND | H | ND | H | 10 | JH | ND | H |
| total xylenes | 11 | JH | ND | H | ND | H | 380 | JH | 16 | JH | 11 | JH | 12 | JH | 36 | JH | 3600 | JH |
| **TOTAL BTEX** | **11** | | **ND** | | **ND** | | **5,338** | | **16** | | **11** | | **12** | | **150** | | **12,200** | |
| Other VOCs | | | | | | | | | | | | | | | | | | |
| Acetone | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H |
| Bromoform | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H |
| Carbon Disulfide | 26 | JH | ND | H | ND | H | 140 | JH | 21 | JH | 15 | JH | ND | H | ND | H | 640 | JH |
| Cyclohexane | ND | H | ND | H | 81 | JH | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H |
| Isopropylbenzene | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H |
| 2-Butanone | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H |
| Methyl Acetate | 34 | JH | ND | H | ND | H | 56 | JH | ND | H | ND | H | 36 | JH | ND | H | ND | H |
| Methylene Chloride | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H | ND | H |
| Methylcyclohexane | ND | H | ND | H | 58 | JH | 24 | JH | 23 | JH | 13 | JH | 240 | JH | ND | H | ND | H |
| Styrene | ND | H | ND | H | ND | H | 8.8 | JHB | ND | H | ND | H | ND | H | ND | H | ND | H |
| **TOTAL OTHER VOCs** | **60** | | **ND** | | **139** | | **228.8** | | **44** | | **28** | | **276** | | **ND** | | **640** | |
| **TOTAL VOCs (CVOCs + BTEX + OTHER)** | **71** | | **112700** | | **191** | | **20437.8** | | **99** | | **3536** | | **288** | | **1012** | | **121840** | |

**Legend:**
ND - Indicates the analyte was not detected
J - Indicates an estimated value.
H - Sample was prepped or analyzed beyond the specified holding time
B - Compound was found in the blank sample
* LCS or LCSD exceeds the control limits
Red highlighted cells indicate liklihood of DNAPL presence or DNAPL disappearance through matrix diffusion based on estimated rock core matrix porewarer concentration greater than the compound solubility

**Former Emerson Street Landfill**
**P-1 Design Phase Investigation**
**Table 1**
**Detected Volatile Organic Compounds (VOCs) in Bedrock page 2 of 6**
**All Results in Micrograms per Kilogram (ug/kg) or Parts Per Billion (PPB)**

| Sample ID | LAB-DBW-01 | | LAB-DBW-01 | | LAB-DBW-01 | | LAB-DBW-01 | | LAB-SBW-06 | | LAB-SBW-06 | | LAB-SBW-07 | | LAB-SBW-07 | | LAB-SBW-08 | | LAB-SBW-08 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ground Surface Elevation (Feet)** | **546.33** | | **546.33** | | **546.33** | | **546.33** | | **545.91** | | **545.91** | | **546.64** | | **546.64** | | **543.50** | | **543.50** | |
| **Sample Elevation Interval (Feet)** | **519.58-519.83** | | **512.83-513.13** | | **502.23-502.53** | | **491.63-491.93** | | **518.11-518.41** | | **510.11-510.71** | | **520.44-521.64** | | **512.14-512.64** | | **517.70-518.20** | | **511.00-511.50** | |
| **Sample Depth Below Grade (Feet)** | **26.5-26.75'** | | **33.2-33.5'** | | **43.8-44.1'** | | **54.4-54.7'** | | **27.5-27.8** | | **35.2-35.8** | | **25-26.2** | | **34-34.5** | | **25.3-25.8** | | **32-32.5** | |
| **Zone** | **A** | | **Upper B** | | **C** | | **C** | | **A** | | **B** | | **A** | | **Upper B** | | **Upper B/A** | | **B** | |
| **Date Collected** | **1/21/2014** | | **1/22/2014** | | **1/22/2014** | | **1/23/2014** | | **6/9/2016** | | **6/9/2016** | | **6/9/2016** | | **6/9/2016** | | **6/9/2016** | | **6/9/2016** | |
| **Chlorinated VOCs** | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ND | H | ND | H | ND | H | ND | H | ND | | ND | | ND | | ND | | ND | | ND | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (freon-113) | ND | H | ND | H | ND | H | ND | H | ND | | ND | | 210 | J | ND | | ND | | ND | |
| 1,1-Dichloroethane | ND | H | ND | H | ND | H | ND | H | 36 | J | 310 | | ND | | ND | | 84 | J | ND | |
| 1,1-Dichloroethene | ND | H | ND | H | ND | H | ND | H | ND | | ND | | ND | | ND | | ND | | ND | |
| 1,2-Dichloroethane | ND | H | ND | H | ND | H | ND | H | 17 | JB | ND | | ND | | ND | | ND | | ND | |
| 1,4-Dichlorobenzene | ND | H | ND | H | ND | H | ND | H | ND | | ND | | ND | | ND | | ND | | ND | |
| cis-1,2-Dichloroethene | 3,600 | H | 76 | JH | ND | H | ND | H | 130 | J | 450 | | ND | | 78 | J | 1,400 | | ND | |
| Tetrachloroethene | 41,000 | H | 55 | JH | 18 | JH | 16 | JH | ND | | 33 | J | ND | | ND | | 150 | J | ND | |
| trans-1,2-Dichloroethene | ND | H | ND | H | ND | H | ND | H | ND | | ND | | ND | | ND | | ND | | ND | |
| Trichloroethene | 2000 | JH | 13 | JH | ND | H | ND | H | 140 | J | 310 | | 40 | J | ND | | ND | | ND | |
| Vinyl chloride | ND | H | ND | H | ND | H | ND | H | ND | | ND | | ND | | 59 | J | 86 | J | ND | |
| **TOTAL CVOCS** | **46,600** | | **144** | | **18** | | **16** | | **323** | | **1,103** | | **250** | | **137** | | **1,720** | | **0** | |
| BTEX VOCs | | | | | | | | | | | | | | | | | | | | |
| Benzene | ND | H | ND | H | ND | H | ND | H | 42 | J | 9.9 | J | ND | | ND | | 18 | J | ND | |
| Toluene | 1100 | JH | ND | H | ND | H | 17 | JH | 120 | JB | 140 | JB | 34 | JB | 18 | JB | 53 | JB | 19 | JB |
| Ethyl Benzene | ND | H | ND | H | ND | H | 62 | JH | 100 | J | ND | | ND | | ND | | ND | | ND | J |
| total xylenes | ND | H | 8.5 | JH | 12 | JH | 760 | H | 400 | J | ND | | 36 | J | ND | | ND | | ND | |
| **TOTAL BTEX** | **1,100** | | **9** | | **12** | | **839** | | **662** | | **150** | | **70** | | **18** | | **71** | | **19** | |
| Other VOCs | | | | | | | | | | | | | | | | | | | | |
| Acetone | ND | H | ND | H | 180 | JH | 230 | JH | ND | | ND | | ND | | ND | | ND | | ND | |
| Bromoform | ND | H | ND | H | ND | H | ND | H | ND | | ND | | ND | | ND | | ND | | ND | |
| Carbon Disulfide | ND | H | ND | H | 20 | JH | 23 | JH | ND | | ND | | ND | | ND | | ND | | ND | |
| Cyclohexane | ND | H | ND | H | ND | H | 930 | H | ND | | ND | | ND | | ND | | ND | | ND | |
| Isopropylbenzene | ND | H | ND | H | ND | H | 27 | H | ND | | ND | | ND | | ND | | ND | | ND | |
| 2-Butanone | ND | H | ND | H | ND | H | ND | H | ND | | ND | | ND | | ND | | ND | | ND | |
| Methyl Acetate | ND | H | 39 | JH | ND | H | ND | H | ND | | ND | | ND | | ND | | ND | | ND | |
| Methylene Chloride | ND | H | ND | H | ND | H | ND | H | ND | | ND | | ND | | ND | | ND | | ND | |
| Methylcyclohexane | ND | H | 85 | JH | 570 | H | 2600 | H | 42 | J | 42 | J | 78 | J | 98 | J | ND | | 390 | J |
| Styrene | ND | H | ND | H | ND | H | ND | H | ND | | ND | | ND | | ND | | ND | | ND | |
| **TOTAL OTHER VOCs** | **ND** | | **124** | | **770** | | **3810** | | **42** | | **42** | | **78** | | **98** | | **ND** | | **390** | |
| **TOTAL VOCs (CVOCs + BTEX + OTHER)** | **47,700** | | **276.5** | | **800** | | **4665** | | **1027** | | **1294.9** | | **398** | | **253** | | **1,791** | | **409** | |

**Legend:**
ND - Indicates the analyte was not detected
J - Indicates an estimated value.
H - Sample was prepped or analyzed beyond the specified holding time
B - Compound was found in the blank sample
* LCS or LCSD exceeds the control limits
Red highlighted cells indicate liklihood of DNAPL presence or DNAPL disappearance through matrix diffusion based on estimated rock core matrix porewarer concentration greater than the compound solubility

**Former Emerson Street Landfill**
**P-1 Design Phase Investigation**
**Table 1**
**Detected Volatile Organic Compounds (VOCs) in Bedrock page 3 of 6**
**All Results in Micrograms per Kilogram (ug/kg) or Parts Per Billion (PPB)**

| Sample ID | LAB-DBW-02 | | LAB-DBW-02 | | LAB-DBW-02 | | LAB-DBW-02 | | LAB-SBW-09 | | LAB-SBW-09 | | LAB-SBW-09 | | LAB-SBW-09 | | LAB-SBW-10 | | LAB-SBW-10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ground Surface Elevation (Feet)** | **544.90** | | **544.90** | | **544.90** | | **544.90** | | **544.38** | | **544.38** | | **544.38** | | **544.38** | | **544.02** | | **544.02** | |
| **Sample Elevation Interval (Feet)** | **518.60-519.10** | | **507.80-508.30** | | **498.60-499.00** | | **480.00-480.40** | | **519.38-519.58** | | **515.88-516.18** | | **510.68-510.88** | | **505.98-506.38** | | **519.02-519.52** | | **511.52-512.02** | |
| **Sample Depth Below Grade (Feet)** | **25.8-26.3** | | **36.6-37.1** | | **45.9-46.3** | | **64.5-64.9** | | **24.8-25.0** | | **28.2-28.5** | | **33.5-33.7** | | **38-38.4** | | **24.5-25.0** | | **32.0-32.5** | |
| **Zone** | **A** | | **C/B** | | **C** | | **D** | | **A** | | **Upper B** | | **B** | | **C** | | **A** | | **B/Upper B** | |
| **Date Collected** | **6/15/2016** | | **6/15/2016** | | **6/15/2016** | | **6/15/2016** | | **1/17/2017** | | **1/17/2017** | | **1/17/2017** | | **1/17/2017** | | **1/18/2017** | | **1/19/2017** | |
| **Chlorinated VOCs** | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 1,700 | | ND | | ND | | ND | | 4,300 | J | 190 | J | ND | | ND | | 860 | | ND | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (freon-113) | 1,900 | | ND | | ND | | ND | | 4,300 | J | 800 | | ND | | ND | | 5,600 | | ND | |
| 1,1-Dichloroethane | 890 | | ND | | ND | | ND | | 1,500 | J | 260 | | ND | | ND | | ND | | 41 | J |
| 1,1-Dichloroethene | 270 | | ND | | ND | | ND | | ND | | 39 | J* | ND | | ND | | ND | | ND | |
| 1,2-Dichloroethane | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| 1,4-Dichlorobenzene | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| cis-1,2-Dichloroethene | 8,100 | | ND | | ND | | ND | | 8,600 | | 4,500 | | ND | | ND | | 950 | | 88 | J |
| Tetrachloroethene | 1,400 | | ND | | ND | | ND | | 6,600 | | 3,000 | | ND | | ND | | 18,000 | | ND | |
| trans-1,2-Dichloroethene | 33 | J | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Trichloroethene | 1,800 | | ND | | ND | | ND | | 110,000 | | 2100 | | ND | | ND | | 890 | | 63 | J |
| Vinyl chloride | 290 | | ND | | ND | | ND | | ND | | 190 | J* | ND | | ND | | 74 | J* | ND | |
| **TOTAL CVOCS** | **16,383** | | **ND** | | **ND** | | **ND** | | **135,300** | | **11,079** | | **ND** | | **ND** | | **26,374** | | **192** | |
| BTEX VOCs | | | | | | | | | | | | | | | | | | | | |
| Benzene | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Toluene | 2,200 | B | 19 | JB | 16 | JB | 17 | JB | 1,600 | J | 860 | | ND | | ND | | 1500 | | ND | |
| Ethyl Benzene | 200 | J | ND | | ND | | ND | | ND | | 52 | J | ND | | ND | | ND | | ND | |
| total xylenes | 960 | | ND | | 260 | J | 140 | J | ND | | 340 | J | ND | | ND | | ND | | ND | |
| **TOTAL BTEX** | **3,360** | | **19** | | **276** | | **157** | | **1,600** | | **1,252** | | **ND** | | **ND** | | **1,500** | | **ND** | |
| Other VOCs | | | | | | | | | | | | | | | | | | | | |
| Acetone | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Bromoform | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Carbon Disulfide | ND | | ND | | ND | | ND | | ND | | 53 | J* | ND | | ND | | ND | | ND | |
| Cyclohexane | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Isopropylbenzene | 14 | J | ND | | 25 | J | 15 | J | ND | | ND | | ND | | ND | | ND | | ND | |
| 2-Butanone | ND | | ND | | ND | | ND | | ND | | 60 | JB | 56 | JB | 59 | JB | ND | | 58 | JB |
| Methyl Acetate | 110 | J | ND | | ND | | ND | | ND | | 100 | JB | ND | | ND | | ND | | 95 | J |
| Methylene Chloride | ND | | ND | | ND | | ND | | 2,300 | JB | 94 | JB | 95 | JB | 100 | JB | 300 | JB | 99 | JB |
| Methylcyclohexane | 330 | J | 96 | J | 2,500 | | 1,700 | JB | ND | | ND | | 54 | J* | 96 | J | ND | | 91 | J* |
| Styrene | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| **TOTAL OTHER VOCs** | **454** | | **96** | | **2525** | | **1715** | | **2300** | | **307** | | **205** | | **255** | | **300** | | **343** | |
| **TOTAL VOCs (CVOCs + BTEX + OTHER)** | **20,197** | | **115** | | **2,801** | | **1,872** | | **139,200** | | **12,638** | | **205** | | **255** | | **28,174** | | **535** | |

**Legend:**
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H - Sample was prepped or analyzed beyond the specified holding time
B - Compound was found in the blank sample
* LCS or LCSD exceeds the control limits
Red highlighted cells indicate liklihood of DNAPL presence or DNAPL disappearance through matrix diffusion based on estimated rock core matrix porewarer concentration greater than the compound solubility

**Former Emerson Street Landfill**
**P-1 Design Phase Investigation**
**Table 1**
**Detected Volatile Organic Compounds (VOCs) in Bedrock page 4 of 6**
**All Results in Micrograms per Kilogram (ug/kg) or Parts Per Billion (PPB)**

| Sample ID | LAB-SBW-11 | | LAB-SBW-11 | | LAB-SBW-11 | | LAB-SBW-12 | | LAB-SBW-12 | | LAB-SBW-13 | | LAB-SBW-13 | | LAB-SBW-13 | | LAB-SBW-13 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ground Surface Elevation (Feet) | 543.91 | | 543.91 | | 543.91 | | 547.65 | | 547.65 | | 543.40 | | 543.40 | | 543.40 | | 543.40 | |
| Sample Elevation Interval (Feet) | 517.91-518.41 | | 512.91-513.41 | | 509.11-509.31 | | 519.95-520.15 | | 511.65-512.15 | | 520.20-520.40 | | 517.90-518.20 | | 512.50-512.90 | | 489.60-499.00 | |
| Sample Depth Below Grade (Feet) | 25.5-26.0 | | 30.5-31.0 | | 34.6-34.8 | | 27.5-27.7 | | 35.5-36.0 | | 23-23.2 | | 25.2-25.5 | | 30.5-30.9 | | 44.4-44.8 | |
| Zone | Upper B/A | | Upper B | | B | | A | | B/Upper B | | A | | Upper B/A | | Upper B | | D/C | |
| Date Collected | 1/19/2017 | | 1/23/2017 | | 1/27/2017 | | 1/24/2017 | | 1/25/2017 | | 3/29/2017 | | 3/29/2017 | | 3/30/2017 | | 3/30/2017 | |
| **Chlorinated VOCs** | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (freon-113) | ND | | ND | | ND | | ND | | ND | | ND | | 24 | J* | ND | | ND | |
| 1,1-Dichloroethane | 94 | J | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| 1,1-Dichloroethene | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| 1,2-Dichloroethane | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| 1,4-Dichlorobenzene | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| cis-1,2-Dichloroethene | 500 | | ND | | ND | | ND | | ND | | ND | | 37 | J* | 45 | J* | ND | |
| Tetrachloroethene | ND | | ND | | ND | | ND | | ND | | ND | | 230 | J* | ND | | ND | |
| trans-1,2-Dichloroethene | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Trichloroethene | 78 | J | ND | | 48 | J | ND | | ND | | ND | | 580 | | ND | | ND | |
| Vinyl chloride | 18 | J | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| **TOTAL CVOCS** | **690** | | **ND** | | **48** | | **ND** | | **ND** | | **ND** | | **871** | | **45** | | **ND** | |
| BTEX VOCs | | | | | | | | | | | | | | | | | | |
| Benzene | ND | | ND | | ND | | ND | | ND | | 48 | J* | ND | | ND | | ND | |
| Toluene | 97 | J | ND | | ND | | ND | | ND | | ND | | 88 | J | ND | | ND | |
| Ethyl Benzene | ND | | ND | | ND | | ND | | ND | | 180 | J | ND | | ND | | 38 | J |
| total xylenes | 40 | J | ND | | ND | | ND | | ND | | 2,000 | | ND | | ND | | 360 | J |
| **TOTAL BTEX** | **137** | | **ND** | | **ND** | | **ND** | | **ND** | | **2228** | | **88** | | **ND** | | **398** | |
| Other VOCs | | | | | | | | | | | | | | | | | | |
| Acetone | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Bromoform | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Carbon Disulfide | ND | | ND | | ND | | 27 | J* | 31 | J* | ND | | 23 | J | ND | | ND | |
| Cyclohexane | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Isopropylbenzene | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| 2-Butanone | 64 | JB | 53 | JB | 57 | JB | 53 | JB | 60 | JB | ND | | ND | | ND | | ND | |
| Methyl Acetate | 360 | J | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Methylene Chloride | 98 | JB | 97 | JB | 100 | JB | 92 | JB | 100 | JB | 75 | JB | ND | | ND | | ND | |
| Methylcyclohexane | 71 | J* | 47 | J* | 110 | J* | ND | | ND | | ND | | ND | | 43 | J* | 2,700 | * |
| Styrene | ND | | ND | | ND | | ND | | ND | | ND | | ND | | 14 | J* | ND | |
| **TOTAL OTHER VOCs** | **593** | | **197** | | **267** | | **172** | | **191** | | **75** | | **23** | | **57** | | **2700** | |
| **TOTAL VOCs (CVOCs + BTEX + OTHER)** | **1420** | | **197** | | **315** | | **172** | | **191** | | **2,303** | | **982** | | **57** | | **3,098** | |

**Legend:**
ND - Indicates the analyte was not detected
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H - Sample was prepped or analyzed beyond the specified holding time
B - Compound was found in the blank sample
* LCS or LCSD exceeds the control limits
Red highlighted cells indicate liklihood of DNAPL presence or DNAPL disappearance through matrix diffusion based on estimated rock core matrix porewarer concentration greater than the compound solubility

**Former Emerson Street Landfill**
**P-1 Design Phase Investigation**
**Table 1**
**Detected Volatile Organic Compounds (VOCs) in Bedrock page 5 of 6**
**All Results in Micrograms per Kilogram (ug/kg) or Parts Per Billion (PPB)**

| Sample ID | LAB-SBW-14 | | LAB-SBW-14 | | LAB-SBW-14 | | LAB-SBW-14 | | LAB-SBW-15 | | LAB-SBW-15 | | LAB-SBW-15 | | LAB-SBW-16 | | LAB-SBW-16 | | LAB-SBW-16 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ground Surface Elevation (Feet)** | 543.99 | | 543.99 | | 543.99 | | 543.99 | | 544.55 | | 544.55 | | 544.55 | | 548.08 | | 548.08 | | 548.08 | |
| **Sample Elevation Interval (Feet)** | 522.49-522.69 | | 520.59-520.79 | | 515.89-516.19 | | 506.59-506.89 | | 521.25-521.45 | | 514.65-514.95 | | 504.15-504.65 | | 521.08-521.28 | | 511.28-511.58 | | 502.88-503.28 | |
| **Sample Depth Below Grade (Feet)** | 21.3-21.5 | | 23.2-23.4 | | 27.8-28.1 | | 37.1-37.4 | | 23.1-23.3 | | 29.6-29.9 | | 39.9-40.4 | | 26.8-27.0 | | 36.5-36.8 | | 44.8-45.2 | |
| **Zone** | A | | A | | Upper B | | C | | A | | Upper B | | C | | A | | B | | C | |
| **Date Collected** | 4/3/2017 | | 4/3/2017 | | 4/4/2017 | | 4/4/2017 | | 4/5/2017 | | 4/6/2017 | | 4/6/2017 | | 4/7/2017 | | 4/8/2017 | | 4/8/2017 | |
| **Chlorinated VOCs** | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | 93 | J | ND | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | ND | | 170 | J* | ND | | ND | | 160 | J* | ND | | ND | | 240 | J | ND | |
| 1,1-Dichloroethane | ND | | ND | | 47 | J* | ND | | ND | | 140 | J* | ND | | ND | | 400 | * | 100 | J* |
| 1,1-Dichloroethene | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| 1,2-Dichloroethane | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| 1,4-Dichlorobenzene | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| cis-1,2-Dichloroethene | ND | | ND | | 310 | * | ND | | ND | | 1,000 | * | ND | | ND | | 4,500 | * | 250 | J* |
| Tetrachloroethene | ND | | ND | | 1,100 | | ND | | ND | | 190 | J | ND | | ND | | 330 | | ND | |
| trans-1,2-Dichloroethene | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Trichloroethene | ND | | ND | | 190 | J | ND | | ND | | 680 | | ND | | ND | | 5,200 | | 59 | J |
| Vinyl chloride | ND | | ND | | 19 | J* | ND | | ND | | 20 | J* | ND | | ND | | 140 | J* | 57 | J* |
| **TOTAL CVOCS** | **ND** | | **ND** | | **1,836** | | **ND** | | **ND** | | **2,190** | | **ND** | | **ND** | | **10,903** | | **466** | |
| BTEX VOCs | | | | | | | | | | | | | | | | | | | | |
| Benzene | 27 | J* | ND | | ND | | ND | | ND | | 41 | J* | ND | | ND | | ND | | ND | |
| Toluene | ND | | ND | | 160 | J | ND | | ND | | 230 | J | ND | | ND | | 350 | | 27 | J |
| Ethyl Benzene | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| total xylenes | ND | | ND | | 42 | J | ND | | ND | | ND | | ND | | ND | | 150 | J | 98 | J |
| **TOTAL BTEX** | **27** | | **ND** | | **202** | | **ND** | | **ND** | | **271** | | **ND** | | **ND** | | **500** | | **125** | |
| Other VOCs | | | | | | | | | | | | | | | | | | | | |
| Acetone | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Bromoform | ND | | 160 | J | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Carbon Disulfide | ND | | ND | | ND | | ND | | ND | | 28 | J | ND | | ND | | 66 | J | ND | |
| Cyclohexane | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Isopropylbenzene | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| 2-Butanone | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Methyl Acetate | ND | | ND | | ND | | 190 | J | 180 | J | 480 | J | 240 | J | 150 | J | 110 | J | 190 | J |
| Methylene Chloride | ND | | ND | | ND | | ND | | 67 | JB | ND | | ND | | ND | | ND | | ND | |
| Methylcyclohexane | ND | | ND | | 210 | J* | 490 | J* | ND | | ND | | 880 | * | ND | | 73 | J* | 1,500 | * |
| Styrene | ND | | 11 | J | ND | | 13 | J | ND | | ND | | ND | | ND | | ND | | ND | |
| **TOTAL OTHER VOCs** | **ND** | | **171** | | **210** | | **693** | | **247** | | **508** | | **1120** | | **150** | | **249** | | **1690** | |
| **TOTAL VOCs (CVOCs + BTEX + OTHER)** | **27** | | **171** | | **2248** | | **693** | | **247** | | **2969** | | **1,120** | | **150** | | **11,652** | | **2,281** | |

**Legend:**
ND - Indicates the analyte was not detected
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H - Sample was prepped or analyzed beyond the specified holding time
B - Compound was found in the blank sample
* LCS or LCSD exceeds the control limits
Red highlighted cells indicate liklihood of DNAPL presence or DNAPL disappearance through matrix diffusion based on estimated rock core matrix porewarer concentration greater than the compound solubility

**Former Emerson Street Landfill**
**P-1 Design Phase Investigation**
**Table 1**
**Detected Volatile Organic Compounds (VOCs) in Bedrock page 6 of 6**
**All Results in Micrograms per Kilogram (ug/kg) or Parts Per Billion (PPB)**

| Sample ID | LAB-SBW-17 | | LAB-SBW-18 | | LAB-SBW-19 | | LAB-SBW-20 | |
|---|---|---|---|---|---|---|---|---|
| Ground Surface Elevation (Feet) | 557.22 | | 553.449 | | 549.08 | | 549.28 | |
| Sample Elevation Interval (Feet) | 521.69-521.72 | | 521.25-521.65 | | 526.68-527.08 | | 519.38-519.68 | |
| Sample Depth Below Grade (Feet) | 35.5-35.8 | | 31.8-32.2 | | 22.0-22.4 | | 29.6-29.9 | |
| Zone | Upper B | | Upper B | | A | | A | |
| Date Collected | 9/1/2020 | | 9/3/2020 | | 9/4/2020 | | 9/4/2020 | |
| **Chlorinated VOCs** | | | | | | | | |
| 1,1,1-Trichloroethane | ND | | ND | | ND | | ND | H |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | ND | | ND | | ND | H |
| 1,1-Dichloroethane | ND | | 150 | J | ND | | ND | H |
| 1,1-Dichloroethene | ND | | ND | | ND | | ND | H |
| 1,2-Dichloroethane | ND | | ND | | ND | | ND | H |
| 1,4-Dichlorobenzene | ND | | ND | | ND | | ND | H |
| cis-1,2-Dichloroethene | 150 | J | 71 | | 410 | | 10000 | H |
| Tetrachloroethene | ND | | ND | | ND | | ND | H |
| trans-1,2-Dichloroethene | ND | | ND | | ND | | ND | H |
| Trichloroethene | 320 | | 150 | J | ND | | 16000 | H |
| Vinyl chloride | ND | | ND | | ND | | ND | H |
| **TOTAL CVOCS** | **470** | | **371** | | **410** | | **26,000** | |
| BTEX VOCs | | | | | | | | |
| Benzene | ND | | ND | | ND | | ND | H |
| Toluene | ND | | ND | | ND | | ND | H |
| Ethyl Benzene | ND | | ND | | ND | | ND | H |
| total xylenes | ND | | ND | s | ND | | ND | H |
| **TOTAL BTEX** | **ND** | | **ND** | | **ND** | | **ND** | |
| Other VOCs | | | | | | | | |
| Acetone | ND | | 680 | J | 280 | J | ND | H |
| Bromoform | ND | | ND | | ND | | ND | H |
| Carbon Disulfide | ND | | ND | | ND | | ND | H |
| Cyclohexane | ND | | ND | | ND | | ND | H |
| Isopropylbenzene | ND | | ND | | ND | | ND | H |
| 2-Butanone | ND | | ND | | ND | | ND | H |
| Methyl Acetate | 150 | J | ND | | ND | | ND | H |
| Methylene Chloride | ND | | ND | | ND | | ND | H |
| Methylcyclohexane | ND | | ND | | ND | | ND | H |
| Styrene | ND | | ND | | ND | | ND | H |
| **TOTAL OTHER VOCs** | **150** | | **680** | | **280** | | **0** | |
| **TOTAL VOCs (CVOCs + BTEX + OTHER)** | **150** | | **1,051** | | **690** | | **26,000** | |

**Legend:**
ND - Indicates the analyte was not detected
J - Indicates an estimated value.
H - Sample was prepped or analyzed beyond the specified holding time
B - Compound was found in the blank sample
* LCS or LCSD exceeds the control limits
Red highlighted cells indicate liklihood of DNAPL presence or DNAPL disappearance through matrix diffusion based on estimated rock c

**Former Emerson Street Landfill**
**P-1 Design Phase Investigation**
**Table 2**
**Detected Volatile Organic Compounds (VOCs) in Groundwater**
**All Results in Micrograms Per Liter (ug/L) or about Parts per Billion (PPB)**

| Sample Location | | LAB-SBW-15 | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ground Surface Elevation (Feet) | | 544.55 | | | | | | | | | | | | | | | | | | | | | |
| Sample Elevation Interval (Feet) | | 516.55-518.55 | | 508.05-510.05 | | 500.75-502.75 | | 505.91-515.91** | | | | | | | | | | | | 516.55 | | 504.55 | |
| Sample Depth Below Grade (Feet) | | 26-28 | | 34.5-36.5 | | 41.8-43.8 | | 29-39** | | | | | | | | | | | | 28 | | 40 | |
| Sample Method | | PDB | | | | | | Low-flow | | | | | | | | | | | | Low-flow | | Low-flow | |
| Event | | Baseline | | | | | | Post Injection 1 | | Post Injection 2 | | Post Injection 3 | | Post Injection 4 | | Post Injection 5 | | | | Design Phase | | Design Phase | |
| Sample Date | | 5/15/2017 | | | | | | 1/2/2018 | | 2/21/2018 | | 6/13/2018 | | 2/26/2019 | | 6/15/2020 | | | | 9/17/2020 | | 9/17/2020 | |
| **Chlorinated VOCs** | **Part 703 Groundwater Quality Standards ug/L (ppb)** | | | | | | | | | | | | | | | | | | | | | | |
| Chloroethane | 5 | 80.6 | J3 | 40.7 | J3 | 5.00 | U J3 | 240 | | 110 | | 420 | | 69 | | 230 | | | | 260 | | 160 | |
| Chloromethane | NL | 2.50 | U J4 | 2.50 | U J4 | 2.50 | U J4 | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| Chlorobenzene | 5 | 1.00 | U | 1.00 | U | 1.00 | U | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| Chloroform | 7 | 5.00 | U | 5.00 | U | 5.00 | U | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| cis-1,2-Dichloroethene | 5 | 4.99 | | 4.77 | | 11.7 | | 3600 | | 10 | | 8.0 | U | 4.0 | U | 4.0 | U | | | 53 | | 71 | |
| Dichlorodifluoromethane | 5 | 5.00 | U J4 | 5.00 | U J4 | 5.00 | U J4 | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| 1,1-Dichloroethene | 5 | 1.00 | U | 1.00 | U | 1.00 | U | 100 | U | 5.0 | U | 15 | | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| 1,1-Dichloroethane | 5 | 1.72 | | 1.55 | | 3.20 | | 73 | J | 9.4 | | 8.0 | U | 3.7 | J | 3.8 | J | | | 40 | | 58 | |
| 1,2-Dichloroethane | 5 | 1.00 | U | 1.00 | U | 1.00 | U | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| 1,4-Dichlorobenzene | 3 | 1.00 | U | 1.00 | U | 1.00 | U | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| Methylene chloride | 5 | 5.00 | U | 5.00 | U | 5.00 | U | 100 | U | 5.0 | U | 8.0 | U | 5.1 | J | 4.0 | U | | | 10 | U | 10 | U |
| 1,1,1-Trichloroethane | 5 | 1.00 | U | 1.00 | U | 1.55 | | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 9.7 | J | 14 | |
| 1,1,2-Trichlorotrifluoroethane | 5 | 2.21 | | 3.16 | | 3.32 | | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 8.5 | J |
| 1,1,2-Trichloroethane | 1 | 1.00 | U | 1.00 | U | 1.00 | U | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| Tetrachloroethene | 5 | 1.00 | U | 1.00 | U | 1.00 | U | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| trans-1,2-Dichloroethene | 5 | 1.00 | U | 1.00 | U | 1.00 | U | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| Trichloroethene | 5 | 1.00 | UJ | 1.00 | UJ | 1.00 | UJ | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| Vinyl chloride | 2 | 1.64 | J3 J4 | 1.58 | J3 J4 | 2.65 | J3 J4 | 1600 | | 13 | | 8.0 | U | 4.0 | U | 4.0 | U | | | 38 | | 61 | |
| **TOTAL CVOCs** | **NA** | **91.16** | | **51.76** | | **22.42** | | **5513** | | **142.4** | | **435** | | **77.8** | | **233.8** | | | | **400.7** | | **372.5** | |
| **BTEX VOCs** | | | | | | | | | | | | | | | | | | | | | | | |
| Benzene | 1 | 3.38 | | 1.45 | U | 1.00 | U | 48 | J | 8.6 | | 20 | | 4.3 | U | 16 | | | | 35 | | 45 | |
| Toluene | 5 | 1.32 | | 1.00 | U | 1.00 | U | 100 | U | 8.1 | | 8.0 | U | 2.3 | J | 4.0 | U | | | 10 | U | 7.8 | J |
| Ethyl Benzene | 5 | 1.00 | U | 1.00 | U | 1.00 | U | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | | |
| m/p-Xylene | 5 | 2.00 | U | 2.00 | U | 2.00 | U | 200 | U | 8.7 | J | 9.8 | J | 5.6 | J | 8.0 | U | | | 20 | U | 7.7 | J |
| o-Xylene | 5 | 1.00 | U | 1.00 | U | 1.00 | U | | | | | | | | | | | | | | | | |
| **TOTAL BTEX** | **NA** | **4.70** | | **ND** | | **ND** | | **48** | | **25.4** | | **29.8** | | **7.9** | | **16.0** | | | | **35.0** | | **60.5** | |
| **Other VOCs** | | | | | | | | | | | | | | | | | | | | | | | |
| Acetone | 50 | 50.0 | U | 50.0 | U | 50.0 | U | 1000 | U | 50 | U | 8.0 | U | 40.0 | U | 40.0 | U | | | 100 | U | 100 | U |
| 1,4-Dioxane | NL | 100 | UJ | 100 | UJ | 100 | UJ | NA | | NA | | 8.0 | U | NA | | NA | | | | 10 | U | 10 | U |
| Carbon Disulfide | 60 | 1.31 | J | 1.91 | J | 1.00 | UJ | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| Cyclohexane | NL | 1.00 | U | 1.00 | U | 1.00 | U | 100 | U | 5.0 | U | 1.6 | J | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| Isopropylbenzene | 5 | 1.00 | U | 1.00 | U | 1.00 | U | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| Methyl tert-butyl ether | 10 | 1.00 | U | 1.00 | U | 1.00 | U | 100 | U | 2.7 | J | 9.4 | | 1.6 | J | 7.5 | | | | 6.4 | J | 7.5 | J |
| Methylcyclohexane | NL | 1.00 | U | 1.00 | U | 1.00 | U | 100 | U | 6.9 | | 12 | | 2.6 | J | 20 | | | | 9.0 | J | 13 | |
| Styrene | 5 | 1.00 | U | 1.00 | U | 1.00 | U | 100 | U | 5.0 | U | 8.0 | U | 4.0 | U | 4.0 | U | | | 10 | U | 10 | U |
| 1,3,5-Trimethylbenzene | 5 | 1.00 | U | 1.00 | U | 1.00 | U | NA | | NA | | 8.0 | U | NA | | NA | | | | 10 | U | 10 | U |
| 1,2,4-Trimethylbenzene | 5 | 1.00 | U | 1.00 | U | 1.00 | U | NA | | NA | | 8.0 | U | NA | | NA | | | | 10 | U | 10 | U |
| 2-Butanone | 50 | 10.0 | U | 10.0 | U | 10.0 | U | 1000 | U | 15 | J | 80.0 | U | 40 | U | 40 | U | | | 100 | U | 100 | U |
| 2-Hexanone | 50 | 10.0 | U | 10.0 | U | 10.0 | U | 500 | U | 25 | U | 40.0 | U | 20 | U | 20 | U | | | 50 | U | 50 | U |
| 4-Methyl-2-pentanone | NL | 10.0 | U | 10.0 | U | 10.0 | U | 500 | U | 25 | U | 8.0 | U | 20 | U | 20 | U | | | 50 | U | 50 | U |
| n-Propylbenzene | 5 | 1.00 | U | 1.00 | U | 1.00 | U | NA | | NA | | 8.0 | U | NA | | NA | | | | NA | | NA | |
| Naphthalene | 10 | 5.00 | U | 5.00 | U | 5.00 | U | NA | | NA | | 8.0 | U | NA | | NA | | | | NA | | NA | |
| n-Butylbenzene | 5 | 1.00 | U | 1.00 | U | 1.00 | U | NA | | NA | | 8.0 | U | NA | | NA | | | | NA | | NA | |
| sec-Butylbenzene | 5 | 1.00 | U | 1.00 | U | 1.00 | U | NA | | NA | | 8.0 | U | NA | | NA | | | | NA | | NA | |
| VOC TICs | NA | None found | | None found | | None found | | None found | | None found | | None found | | None found | | None found | | | | None found | | None found | |
| **TOTAL VOCs** | **NA** | **97.17** | | **53.67** | | **22.42** | | **5,561** | | **192.4** | | **487.8** | | **89.9** | | **277.3** | | | | **451.1** | | **453.5** | |

**Legend:**
NL - Not Listed
NA indicates not applicable
Total VOCs - denotes summation of all detected compounds not including TICs (i.e., constituents below the detection limits are assumed to be zero).
TICs- Tentatively Indicated Compounds
Yellow highlighted values exceed NYSDEC Part 703 Groundwater Quality Standards
U - Indicates the compound was analyzed for as part of the standard list but not detected, with the detection limit shown as the value.
J - Indicates an estimated value
T- Result is a tenatatively identified compound (TIC) and an estimated value
N- Presumptive evidence of material
F1- MS and/or MSD Recovery is outside acceptance limits.
** - Indicates a range approximaty 5 feet above and below depth to top of pump during sampling
ML-7S not sampled during Post Injection Event 2 or 3. ML-2S not sampled during Post Injection Event 3. Wells were dry
Red text indicates a change made in the DUSR
R indicates the result was rejected in the DUSR
2020 data not yet validated

**Former Emerson Street Landfill**
**P-1 Design Phase Investigation**
**Table 2**
**Detected Volatile Organic Compounds (VOCs) in Groundwater**
**All Results in Micrograms Per Liter (ug/L) or about Parts per Billion (PPB)**

| Sample Location | | LAB-SBW-16 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ground Surface Elevation (Feet) | | 548.08 | | | | | | | | | | | | | | | | | | | |
| Sample Elevation Interval (Feet) | | 516.58-518.58 | | 508.08-510.08 | | 500.18-502.18 | | 493.27-503.27** | | | | | | | | | | 515.08 | | 504.08 | |
| Sample Depth Below Grade (Feet) | | 29.5-31.5 | | 38-40 | | 45.9-47.9 | | 42-52** | | | | | | | | | | 33 | | 44 | |
| Sample Method | | PDB | | | | | | Low-flow | | | | | | | | | | Low-flow | | Low-flow | |
| Event | | Baseline | | | | | | Post Injection 1 | | Post Injection 2 | | Post Injection 3 | | Post Injection 4 | | Post Injection 5 | | Design Phase | | Design Phase | |
| Sample Date | | 5/15/2017 | | | | | | 1/2/2018 | | 2/21/2018 | | 6/13/2018 | | 2/26/2019 | | 5/15/2020 | | 9/17/2020 | | 9/17/2020 | |
| **Chlorinated VOCs** | **Part 703 Groundwater Quality Standards ug/L (ppb)** | | | | | | | | | | | | | | | | | | | | |
| Chloroethane | 5 | 7.85 | J3 | 11.5 | | 6.43 | | 9.4 | J | 10 | U | 3.3 | J | 0.89 | J | 19 | | 44 | | 3.7 | J |
| Chloromethane | NL | 2.50 | U J4 | 2.50 | U | 2.50 | U | 10 | U | 10 | U | 5.0 | U | 2.0 | U | 5.0 | U | 40 | U | 4.0 | U |
| Chlorobenzene | 5 | 1.00 | UJ | 1.00 | U | 1.00 | U | 10 | U | 10 | U | 5.0 | U | 2.0 | U | 5.0 | U | 40 | U | 4.0 | U |
| Chloroform | 7 | 5.00 | UJ | 5.00 | U | 5.00 | U | 10 | U | 10 | U | 5.0 | U | 2.0 | U | 5.0 | U | 40 | U | 4.0 | U |
| cis-1,2-Dichloroethene | 5 | 180 | J | 185 | | 18.4 | | 710 | | 74 | | 140 | J | 6.1 | | 76 | F1 | 1800 | | 28.0 | |
| Dichlorodifluoromethane | 5 | 5.00 | U J4 | 5.00 | U | 5.00 | U | 10 | U | 10 | U | 5.0 | UJ | 2.0 | U | 5.0 | U | 40 | U | 4.0 | U |
| 1,1-Dichloroethene | 5 | 1.15 | J | 1.08 | U | 1.00 | U | 10 | U | 10 | U | 35 | J | 2.0 | U | 5.0 | U | 21 | J | 4.0 | U |
| 1,1-Dichloroethane | 5 | 63.7 | J | 72.0 | | 52.2 | | 53 | | 29 | | 5.0 | UJ | 2.7 | | 52 | F1 | 750 | | 34 | |
| 1,2-Dichloroethane | 5 | 1.00 | UJ | 1.00 | U | 1.00 | U | 10 | U | 10 | U | 5.0 | UJ | 2.0 | U | 5.0 | U | 40 | U | 4.0 | U |
| 1,4-Dichlorobenzene | 3 | 1.00 | UJ | 1.00 | U | 1.00 | U | 10 | U | 10 | U | 5.0 | UJ | 2.0 | U | 5.0 | U | 40 | U | 4.0 | U |
| Methylene chloride | 5 | 5.00 | UJ | 5.00 | U J0 | 5.00 | U J0 | 10 | U | 10 | U | 5.0 | U | 2.0 | J | 5.0 | U | 40 | U | 4.0 | U |
| 1,1,1-Trichloroethane | 5 | 30.4 | J | 35.6 | | 2.95 | | 21 | | 10 | U | 19 | J | 2.0 | U | 19 | | 380 | | 10 | |
| 1,1,2-Trichlorotrifluoroethane | 5 | 78.0 | J | 84.4 | | 1.34 | | 20 | | 10 | U | 16 | J | 2.0 | U | 34 | | 460 | | 27 | |
| 1,1,2-Trichloroethane | 1 | 1.00 | UJ | 1.00 | U J4 | 1.00 | U J4 | 10 | U | 10 | U | 5.0 | UJ | 2.0 | U | 5.0 | U | 40 | U | 4.0 | U |
| Tetrachloroethene | 5 | 1.01 | J | 1.18 | | 1.00 | U | 10 | U | 10 | U | 5.0 | UJ | 2.0 | U | 5.0 | U | 40 | U | 4.0 | U |
| trans-1,2-Dichloroethene | 5 | 7.22 | J | 7.04 | | 1.00 | U | 10 | U | 10 | U | 5.0 | UJ | 2.0 | U | 5.0 | U | 40 | U | 4.0 | U |
| Trichloroethene | 5 | 6.94 | J | 7.85 | | 3.02 | | 5.3 | J | 10 | U | 5.0 | UJ | 2.0 | U | 5.0 | U | 40 | U | 4.0 | U |
| Vinyl chloride | 2 | 98.9 | J3 J4 | 187 | | 17.8 | | 440 | | 47 | | 84 | J | 2.8 | | 83 | | 950 | | 14 | |
| **TOTAL CVOCs** | **NA** | **475.17** | | **591.6** | | **102.14** | | **1258.7** | | **150** | | **297.3** | | **14.5** | | **283** | | **4405.0** | | **116.7** | |
| **BTEX VOCs** | | | | | | | | | | | | | | | | | | | | | |
| Benzene | 1 | 12.1 | J | 12.7 | | 1.00 | U | 15 | | 21 | | 23 | J | 4.7 | | 22 | | 22 | J | 4.0 | U |
| Toluene | 5 | 4.56 | J | 6.85 | | 1.00 | U | 11 | | 15 | | 10 | J | 1.8 | J | 17 | | 120 | | 8.8 | |
| Ethyl Benzene | 5 | 3.38 | J | 4.24 | | 1.00 | U | 7.8 | J | 17 | | 12 | J | 2.1 | | 5.8 | | 40 | U | 4.0 | U |
| m/p-Xylene | 5 | 5.12 | J | 6.64 | | 2.00 | U | 260 | | 250 | | 160 | J | 16 | | 46 | | 50 | J | 7.2 | J |
| o-Xylene | 5 | 3.44 | J | 4.61 | | 1.00 | U | | | | | | | | | | | | | | |
| **TOTAL BTEX** | **NA** | **28.6** | | **35.04** | | **ND** | | **293.8** | | **303** | | **205** | | **24.6** | | **90.8** | | **192.0** | | **16.0** | |
| **Other VOCs** | | | | | | | | | | | | | | | | | | | | | |
| Acetone | 50 | 50.0 | UJ | 50.0 | U | 50.0 | U | 100 | U | 100 | UJ | 15 | J | 16 | J | 50 | U | 400 | U | 40.0 | U |
| 1,4-Dioxane | NL | 100 | UJ | 100 | UJ | 100 | UJ | NA | | NA | | 5.0 | U | NA | | NA | | NA | | NA | |
| Carbon Disulfide | 60 | 1.00 | UJ | 1.00 | U | 1.34 | | 10 | U | 10 | U | 5.0 | U | 2.0 | U | 5.0 | U | 40 | U | 4.0 | U |
| Cyclohexane | NL | 1.00 | UJ | 1.00 | U | 1.00 | U | 10 | U | 10 | U | 5.0 | UJ | 2.0 | U | 5.0 | U | 40 | U | 4.0 | U |
| Isopropylbenzene | 5 | 1.00 | UJ | 1.00 | U | 1.00 | U | 22 | | 37 | | 35 | J | 5.7 | | 27 | | 40 | U | 4.0 | U |
| Methyl tert-butyl ether | 10 | 1.00 | UJ | 1.00 | U | 1.00 | U | 20 | | 42 | | 55 | J | 26 | | 37 | | 24 | J | 4.0 | U |
| Methylcyclohexane | NL | 1.00 | UJ | 1.00 | U | 1.00 | U | 10 | U | 10 | U | 1.3 | J | 2.0 | U | 3.6 | J | 40 | U | 4.0 | U |
| Styrene | 5 | 1.00 | UJ | 1.00 | U | 1.00 | U | 10 | U | 10 | U | 5.0 | UJ | 2.0 | U | 5.0 | U | 40 | U | 4.0 | U |
| 1,3,5-Trimethylbenzene | 5 | 1.00 | UJ | 1.00 | U | 1.00 | U | NA | | NA | | 5.0 | U | NA | | NA | | 40 | U | 4.0 | U |
| 1,2,4-Trimethylbenzene | 5 | 1.00 | UJ | 1.00 | U | 1.00 | U | NA | | NA | | 5.0 | U | NA | | NA | | 40 | U | 4.0 | U |
| 2-Butanone | 50 | 10.0 | UJ | 10.0 | U | 10.0 | U | 100 | U | 100 | UJ | 50.0 | UJ | 7.6 | J | 5.0 | U | 400 | U | 40 | U |
| 2-Hexanone | 50 | 10.0 | UJ | 10.0 | U | 10.0 | U | 50 | U | 50 | UJ | 25.0 | UJ | 10.0 | U | 5.0 | U | 200 | U | 20 | U |
| 4-Methyl-2-pentanone | NL | 10.0 | UJ | 10.0 | U J3 | 10.0 | U J3 | 50 | U | 50 | U | 5.0 | UJ | 41 | | 5.0 | U | 200 | U | 20 | U |
| n-Propylbenzene | 5 | 1.00 | UJ | 1.00 | U | 1.00 | U | NA | | NA | | 5.0 | U | NA | | NA | | NA | | NA | |
| Naphthalene | 10 | 5.00 | UJ | 5.00 | U .J0 | 5.00 | U .J0 | NA | | NA | | 5.0 | U | NA | | NA | | NA | | NA | |
| n-Butylbenzene | 5 | 1.00 | UJ | 1.00 | U | 1.00 | U | NA | | NA | | 5.0 | U | NA | | NA | | NA | | NA | |
| sec-Butylbenzene | 5 | 1.00 | UJ | 1.00 | U | 1.00 | U | NA | | NA | | 5.0 | U | NA | | NA | | NA | | NA | |
| VOC TICs | NA | None found | | None found | | None found | | None found | | 190 | YJN | 163 | | 8.4 | TJ | 65 | TJN | None found | | None found | |
| **TOTAL VOCs** | **NA** | **503.77** | | **626.61** | | **103.48** | | **1,594.5** | | **532.0** | | **608.6** | | **135.4** | | **506.4** | | **4,621.0** | | **132.7** | |

**Legend:**
NL - Not Listed
NA indicates not applicable
Total VOCs - denotes summation of all detected compounds not including TICs (i.e., constituents below the detection limits are assumed to be zero).
TICs- Tentatively Indicated Compounds
Yellow highlighted values exceed NYSDEC Part 703 Groundwater Quality Standards
U - Indicates the compound was analyzed for as part of the standard list but not detected, with the detection limit shown as the value.
J - Indicates an estimated value
T- Result is a tentatively identified compound (TIC) and an estimated value
N- Presumptive evidence of material
F1- MS and/or MSD Recovery is outside acceptance limits.
** - Indicates a range approximaty 5 feet above and below depth to top of pump during sampling
ML-7S not sampled during Post Injection Event 2 or 3. ML-2S not sampled during Post Injection Event 3. Wells were dry
Red text indicates a change made in the DUSR
R indicates the result was rejected in the DUSR
2020 data not yet validated

**Former Emerson Street Landfill**
**P-1 Design Phase Investigation**
**Table 2**
**Detected Volatile Organic Compounds (VOCs) in Groundwater**
**All Results in Micrograms Per Liter (ug/L) or about Parts per Billion (PPB)**

| Sample Location | | ML-2S | | | | ML-2I | | | | | | ML-2D | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ground Surface Elevation (Feet) | | 548.3 | | | | 548.3 | | | | | | 548.3 | | | | | |
| Sample Elevation Interval (Feet) | | 518.1-521.1 | | | | 511.2-516.2 | | | | | | 505.3-510.3 | | | | | |
| Sample Depth Below Grade (Feet) | | 27.25-30.25 | | | | 32.15-37.15 | | | | | | 38.0-43.0 | | | | | |
| Sample Method | | Low-flow | | | | Low-flow | | | | | | Low-flow | | | | | |
| Event | | Baseline | Post Injection 1 | Post Injection 2 | Post Injection 4 | Baseline | Post Injection 1 | Post Injection 2 | Post Injection 3 | Post Injection 4 | Post Injection 5 | Baseline | Post Injection 1 | Post Injection 2 | Post Injection 3 | Post Injection 4 | Post Injection 5 |
| Sample Date | | 10/19/2017 | 1/2/2018 | 2/21/2018 | 2/27/2019 | 10/18/2017 | 1/3/2018 | 2/21/2018 | 6/15/2018 | 2/27/2019 | 6/15/2020 | 10/18/2017 | 1/3/2018 | 2/21/2018 | 6/15/2018 | 2/27/2019 | 6/15/2020 |
| **Chlorinated VOCs** | **Part 703 Groundwater Quality Standards ug/L (ppb)** | | | | | | | | | | | | | | | | |
| Chloroethane | 5 | 4.6 J | 10 U | 10 U | 4.0 U | R | 100 U | 38 J | 5.4 | 5.0 U | 43 | 2.2 J | 15 | 5.0 U | 10 J | 39 | 130 |
| Chloromethane | NL | R | 10 U | 10 U | 4.0 U | R | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | R | 2.0 U | 5.0 U | 5 UJ | 2.0 U | 10 U |
| Chlorobenzene | 5 | R | 10 U | 10 U | 4.0 U | R | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | R | 2.0 U | 5.0 U | 5 UJ | 2.0 U | 10 U |
| Chloroform | 7 | 4.1 J | 10 U | 10 U | 4.0 U | R | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | 1.1 J | 2.0 U | 5.0 U | 5 UJ | 2.0 U | 10 U |
| cis-1,2-Dichloroethene | 5 | 160 J | 560 J | 10 U | 46 | 3000 J | 6700 | 1700 | 14 | 53 | 5.0 U | 71 J | 150 | 130 | 5 UJ | 2.6 | 25 |
| Dichlorodifluoromethane | 5 | R | 10 U | 10 U | 4.0 U | R | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | R | 2.0 U | 5.0 U | 5 UJ | 2.0 U | 10 U |
| 1,1-Dichloroethene | 5 | R | 10 U | 10 U | 4.0 U | R | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | 1.0 J | 2.2 | 5.0 U | 5 UJ | 2.0 U | 10 U |
| 1,1-Dichloroethane | 5 | 33 J | 10 U | 10 U | 4.0 U | 870 J | 2200 | 1000 | 63 | 8.4 | 15 | 35 J | 140 | 45 | 49 J | 55 | 110 |
| 1,2-Dichloroethane | 5 | R | 10 U | 10 U | 4.0 U | R | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | R | 2.0 U | 5.0 U | 5 UJ | 2.0 U | 10 U |
| 1,4-Dichlorobenzene | 3 | R | 10 U | 10 U | 4.0 U | R | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | R | 2.0 U | 5.0 U | 5 UJ | 2.0 U | 10 U |
| Methylene chloride | 5 | R | 10 U | 10 U | 4.3 J | R | 100 U | 40 U | 5 U | 6.2 J | 5.0 U | R | 2.0 U | 5.0 U | 5 UJ | 2.0 J | 10 U |
| 1,1,1-Trichloroethane | 5 | R | 10 U | 10 U | 4.0 U | 480 J | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | 7.0 J | 35 | 5.0 U | 6.1 J | 3.8 | 10 U |
| 1,1,2-Trichlorotrifluoroethane | 5 | R | 10 U | 10 U | 4.0 U | 650 J | 140 | 40 U | 5 U | 5.0 U | 5.0 U | 4.3 J | 24 | 5.0 U | 2.8 J | 1.3 J | 10 U |
| 1,1,2-Trichloroethane | 1 | R | 10 U | 10 U | 4.0 U | R | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | R | 2.0 U | 5.0 U | 5 UJ | 2.0 U | 10 U |
| Tetrachloroethene | 5 | R | 10 U | 10 U | 4.0 U | R | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | 0.91 J | 2.0 U | 5.0 U | 5 UJ | 2.0 U | 10 U |
| trans-1,2-Dichloroethene | 5 | R | 10 U | 10 U | 4.0 U | R | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | R | 4.1 | 5.0 U | 5 UJ | 2.1 | 10 U |
| Trichloroethene | 5 | R | 10 U | 10 U | 4.0 U | 260 J | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | 11 J | 16 | 2.9 J | 5 UJ | 1.0 J | 10 U |
| Vinyl chloride | 2 | 490 J | 220 | 10 U | 36 | 990 J | 2300 | 430 | 5 U | 45 | 5.0 U | 15 J | 130 | 83 | 5 UJ | 3.3 | 10 |
| **TOTAL CVOCs** | **NA** | **691.7** | **780** | **ND** | **86** | **6,250** | **11,340** | **3,168** | **82** | **113** | **58** | **148.51** | **516.3** | **260.9** | **67.9** | **110.1** | **275** |
| **BTEX VOCs** | | | | | | | | | | | | | | | | | |
| Benzene | 1 | 6.0 J | 25 | 24 | 20 | R | 100 U | 38 J | 25 | 22 | 15 | R | 2.3 | 23 | 21 J | 5.5 | 32 |
| Toluene | 5 | R | 10 U | 10 U | 2.6 J | 170 J | 510 | 290 | 23 | 12 | 5.0 U | 1.4 J | 2.0 | 18 | 9.5 J | 2.0 | 76 |
| Ethyl Benzene | 5 | R | 13 | 17 | 6.9 | R | 100 U | 39 J | 13 | 11 | 5.0 U | R | 2.0 U | 16 | 11 J | 2.0 U | 25 |
| m/p-Xylene | 5 | R | 620 F1 | 430 | 77 | R | 110 J | 210 | 110 | 73 | 10 U | R | 1.6 J | 210 | 94 J | 3.0 J | 140 |
| o-Xylene | 5 | | | | | R | | | | | | R | | | | | |
| **TOTAL BTEX** | **NA** | **6.0** | **658** | **471** | **107** | **170** | **620** | **577** | **171** | **118** | **15** | **1.4** | **5.9** | **267** | **135.5** | **10.5** | **273** |
| **Other VOCs** | | | | | | | | | | | | | | | | | |
| Acetone | 50 | 33 J | 100 U | 100 U | 12 J | R | 1000 U | 400 U | 50 U | 50 U | 18 J* | R | 10 J | 50 U | 50 U | 8.7 J | 68 J* |
| 1,4-Dioxane | NL | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Carbon Disulfide | 60 | R | 10 U | 10 U | 4.0 U | R | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | R | 2.0 U | 5.0 U | 2 UJ | 2.0 U | 10 U |
| Cyclohexane | NL | R | 10 U | 10 U | 4.0 U | R | 100 U | 40 U | 5 U | 2.0 J | 5.0 U | R | 2.0 U | 5.0 U | 10 UJ | 2.0 U | 10 U |
| Isopropylbenzene | 5 | R | 46 | 54 | 34 | R | 100 U | 40 U | 25 | 28 | 5.0 U | R | 2.0 U | 37 | 24 J | 2.0 U | 20 |
| Methyl tert-butyl ether | 10 | R | 39 | 56 | 45 | R | 100 U | 20 J | 47 | 41 | 1.8 J | R | 0.87 J | 51 | 33 J | 2.1 | 21 |
| Methylcyclohexane | NL | R | 2.4 J | 10 U | 0.70 J | R | 100 U | 40 U | 1.4 J | 2.4 J | 5.0 U | R | 0.36 J | 2.0 J | 1.1 J | 2.0 U | 10 U |
| Styrene | 5 | R | 10 U | 10 U | 4.0 U | R | 100 U | 40 U | 5 U | 5.0 U | 5.0 U | R | 2.0 U | 5.0 U | 10 UJ | 2.0 U | 10 U |
| 1,3,5-Trimethylbenzene | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trimethylbenzene | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Butanone | 50 | R | 100 U | 100 U | 40 U | R | 1000 U | 400 UJ | 57 | 12 J | 50 U | R | 2.8 J | 50 U | 19 J | 20 U | 100 U |
| 2-Hexanone | 50 | R | 50 U | 50 U | 20 U | R | 500 U | 200 UJ | 25 U | 25 U | 5.0 U | R | 10 U | 25 U | 10 UJ | 10 U | 10 U |
| 4-Methyl-2-pentanone | NL | R | 50 U | 50 U | 34 | R | 500 U | 200 U | 25 U | 83 | 5.0 U | R | 10 U | 25 U | 10 UJ | 10 U | 10 U |
| n-Propylbenzene | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Naphthalene | 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| n-Butylbenzene | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| sec-Butylbenzene | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| VOC TICs | NA | 30 TJ | None found | 304 TJN | 11 TJN | None found | 590 TJN | 530 TJN | 80 TJN | 82 TJN | None found | None found | 9.2 | 156 TJN | 89 TJN | 5.9 TJN | 217 TJN |
| **TOTAL VOCs** | **NA** | **730.7** | **1,525.4** | **581.0** | **318.5** | **6,420** | **11,960** | **3,765** | **383.8** | **399.0** | **92.8** | **149.91** | **536.2** | **617.9** | **280.5** | **131.4** | **657.0** |

**Legend:**
NL - Not Listed
NA indicates not applicable
Total VOCs - denotes summation of all detected compounds not including TICs (i.e., constituents below the detection limits are assumed to be zero).
TICs- Tentatively Indicated Compounds
Yellow highlighted values exceed NYSDEC Part 703 Groundwater Quality Standards
U - Indicates the compound was analyzed for as part of the standard list but not detected, with the detection limit shown as the value.
J - Indicates an estimated value
T- Result is a tenatatively identified compound (TIC) and an estimated value
N- Presumptive evidence of material
F1- MS and/or MSD Recovery is outside acceptance limits.
** - Indicates a range approximaty 5 feet above and below depth to top of pump during sampling
ML-7S not sampled during Post Injection Event 2 or 3. ML-2S not sampled during Post Injection Event 3. Wells were dry
Red text indicates a change made in the DUSR
R indicates the result was rejected in the DUSR
2020 data not yet validated

**Former Emerson Street Landfill**
**P-1 Design Phase Investigation**
**Table 2**
**Detected Volatile Organic Compounds (VOCs) in Groundwater**
**All Results in Micrograms Per Liter (ug/L) or about Parts per Billion (PPB)**

| Sample Location | | ML-7S | | ML-7I | | | | | | ML-7D | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ground Surface Elevation (Feet) | | 545.5 | | 545.5 | | | | | | 545.5 | | | | | |
| Sample Elevation Interval (Feet) | | 517.3-520.3 | | 510.2-515.2 | | | | | | 503.0-508.0 | | | | | |
| Sample Depth Below Grade (Feet) | | 25.25-28.25 | | 30.3-35.3 | | | | | | 37.5-42.5 | | | | | |
| Sample Method | | Low-flow | | Low-flow | | | | | | Low-flow | | | | | |
| Event | | Baseline | Post Injection 1 | Baseline | Post Injection 1 | Post Injection 2 | Post Injection 3 | Post Injection 4 | Post Injection 5 | Baseline | Post Injection 1 | Post Injection 2 | Post Injection 3 | Post Injection 4 | Post Injection 5 |
| Sample Date | | 10/19/2017 | 1/9/2018 | 10/19/2017 | 1/8/2018 | 2/21/2018 | 6/14/2018 | 2/26/2019 | 6/16/2020 | 10/20/2017 | 1/8/2018 | 2/21/2018 | 6/14/2018 | 2/26/2019 | 6/16/2020 |
| **Chlorinated VOCs** | **Part 703 Groundwater Quality Standards ug/L (ppb)** | | | | | | | | | | | | | | |
| Chloroethane | 5 | R | 0.80 J | 170 J | 200 U | 72 | 50 | 78 | 64 | 110 J | 120 | 100 | 27 | 200 | 180 |
| Chloromethane | NL | R | 1.0 U | R | 200 UJ | 40 U | 20 U | 5.0 U | 4.0 U | R | 10 U | 10 U | 5 U | 5.0 U | 4.0 U |
| Chlorobenzene | 5 | R | 1.0 U | R | 200 U | 40 U | 20 U | 5.0 U | 4.0 U | R | 10 U | 10 U | 5 U | 5.0 U | 4.0 U |
| Chloroform | 7 | R | 1.0 U | R | 200 U | 40 U | 20 U | 5.0 U | 4.0 U | R | 10 U | 10 U | 5 U | 5.0 U | 4.0 U |
| cis-1,2-Dichloroethene | 5 | R | 3.0 | 2800 J | 11000 | 2900 | 560 | 190 | 44 | 1000 J | 570 | 20 | 58 | 5.0 U | 6.7 |
| Dichlorodifluoromethane | 5 | R | 1.0 U | R | 200 U | 40 U | 22 | 5.0 U | 4.0 U | R | 10 U | 10 U | 5 U | 5.0 U | 4.0 U |
| 1,1-Dichloroethene | 5 | R | 1.0 U | R | 200 U | 40 U | 20 U | 5.0 U | 4.0 U | 31 J | 25 | 10 U | 5 U | 5.0 U | 4.0 U |
| 1,1-Dichloroethane | 5 | R | 1.0 U | 370 J | 1600 | 680 | 460 | 220 | 74 | 520 J | 560 | 420 | 170 | 46 | 48 |
| 1,2-Dichloroethane | 5 | R | 1.0 U | R | 200 U | 40 U | 20 U | 5.0 U | 4.0 U | R | 10 U | 10 U | 5 U | 5.0 U | 4.0 U |
| 1,4-Dichlorobenzene | 3 | R | 1.0 U | R | 200 U | 40 U | 20 U | 5.0 U | 4.0 U | R | 10 U | 10 U | 5 U | 5.0 U | 4.0 U |
| Methylene chloride | 5 | R | 3.2 J | R | 200 U | 38 J | 20 U | 4.9 J | 2.9 J | R | 10 U | 10 U | 5 U | 5.8 J | 2.9 J |
| 1,1,1-Trichloroethane | 5 | R | 1.0 U | 110 J | 200 U | 40 U | 20 U | 10 | 4.0 U | 250 J | 150 | 120 | 66 | 15 | 13 |
| 1,1,2-Trichlorotrifluoroethane | 5 | R | 1.0 U | 380 J | 310 F2 | 130 | 41 | 84 | 4.0 U | 190 J | 67 | 24 | 6.4 | 2.8 J | 1.5 J |
| 1,1,2-Trichloroethane | 1 | R | 1.0 U | R | 200 U | 40 U | 20 U | 5.0 U | 4.0 U | R | 10 U | 10 U | 5 U | 5.0 U | 4.0 U |
| Tetrachloroethene | 5 | R | 1.0 U | 35 J | 200 U | 40 U | 20 U | 2.9 J | 1.5 J | 12 J | 3.9 J | 10 U | 5 U | 5.0 U | 4.0 U |
| trans-1,2-Dichloroethene | 5 | R | 1.0 U | R | 200 U | 40 U | 20 U | 7.9 J | 4.0 U | R | 10 U | 10 U | 5 U | 5.0 U | 4.0 U |
| Trichloroethene | 5 | R | 1.0 U | 140 J | 200 U | 40 U | 20 U | 9.9 | 4.9 | 100 J | 41 | 9.8 J | 14 | 5.0 U | 3.6 J |
| Vinyl chloride | 2 | R | 1.0 U | 510 J | 2900 J | 870 | 360 | 170 | 14 | 230 J | 380 | 19 | 16 | 5.0 U | 4.0 U |
| **TOTAL CVOCs** | **NA** | **ND** | **7.0** | **4,515** | **15,810** | **4,690** | **1,493** | **778** | **205** | **2,443** | **1,917** | **712.8** | **357.4** | **269.6** | **255.7** |
| **BTEX VOCs** | | | | | | | | | | | | | | | |
| Benzene | 1 | 18 J | 3.3 | 59 J | 200 U | 38 J | 23 | 20 | 15 | 50 J | 33 | 25.0 | 7.7 | 9.4 | 6.0 |
| Toluene | 5 | R | 1.5 | 75 J | 280 F2 | 160 | 90 | 85 | 36 | 33 J | 16 | 17 | 5 U | 5.0 U | 4.0 U |
| Ethyl Benzene | 5 | R | 0.96 J | R | 200 U | 40 U | 20 U | 5.0 U | 4.0 U | R | 10 U | 10 U | 5 U | 5.0 U | 4.0 U |
| m/p-Xylene | 5 | 8.8 J | 4.6 | R | 400 U | 80 U | 40 U | 7.8 J | 5.7 J | R | 400 U | 20 U | 10 U | 10 U | 8 U |
| o-Xylene | 5 | | | R | | | | | | R | | | | | |
| **TOTAL BTEX** | **NA** | **26.8** | **10.36** | **134** | **280** | **198** | **113** | **113** | **57** | **83** | **49** | **42** | **7.7** | **9.4** | **6.0** |
| **Other VOCs** | | | | | | | | | | | | | | | |
| Acetone | 50 | 58 J | 210 J | R | 2000 UJ | 400 U | 200 U | 50 U | 40 U | 61 J | 43 J | 100 U | 26 J | 50 U | 40 U |
| 1,4-Dioxane | NL | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Carbon Disulfide | 60 | R | 1.3 | R | 200 U | 40 U | 20 U | 5.0 U | 4.0 U | R | 10 U | 10 U | 5 U | 5.0 U | 4.0 U |
| Cyclohexane | NL | R | 1.0 U | R | 200 U | 40 U | 20 U | 5.0 U | 4.0 U | R | 10 U | 10 U | 5 U | 5.0 U | 4.0 U |
| Isopropylbenzene | 5 | R | 2.9 J | R | 200 U | 40 U | 20 U | 5.0 U | 4.0 U | R | 10 U | 10 U | 5 U | 5.0 U | 4.0 U |
| Methyl tert-butyl ether | 10 | R | 0.36 J | R | 200 U | 40 U | 20 U | 1.4 J | 1.6 J | R | 4.6 J | 5.7 J | 1.7 J | 1.7 J | 1.5 J |
| Methylcyclohexane | NL | R | 0.35 J | R | 200 U | 40 U | 20 U | 5.0 U | 0.7 J | R | 10 U | 10 U | 5 U | 1.1 J | 0.85 J |
| Styrene | 5 | R | 1.0 U | R | 200 U | 40 U | 20 U | 5.0 U | 4.0 U | R | 10 U | 10 U | 5 U | 5.0 U | 4.0 U |
| 1,3,5-Trimethylbenzene | 5 | NA | NA U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2,4-Trimethylbenzene | 5 | NA | NA U | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 2-Butanone | 50 | R | 420 J | R | 2000 U | 400 U | 200 U | 11 J* | 4.0 U | R | 55 J | 61 J | 12 J | 50 U | 4.0 U |
| 2-Hexanone | 50 | R | 5.0 U | R | 1000 U | 200 U | 100 U | 25 U | 4.0 U | R | 50 U | 50 U | 25 U | 25 U | 4.0 U |
| 4-Methyl-2-pentanone | NL | R | 4.0 J | R | 1000 U | 200 U | 100 U | 25 U | 4.0 U | R | 50 U | 50 U | 25 U | 25 U | 4.0 U |
| n-Propylbenzene | 5 | NA | NA | NA | NA | NA | NA | NA | 4.0 U | NA | NA | NA | NA | NA | NA |
| Naphthalene | 10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| n-Butylbenzene | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| sec-Butylbenzene | 5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| VOC TICs | NA | 64 TJ | 783.3 | None found | 630 TJ | 450 TJN | None found | 140 TJN | 5.7 J | None found | 97 TJN | None found | 54 TJN | 13 TJN | None found |
| **TOTAL VOCs** | **NA** | **84.8** | **656.3** | **4,649** | **16,090** | **4,888** | **1,606** | **903** | **264** | **2,587** | **2,068.5** | **821.5** | **404.8** | **281.8** | **264.1** |

**Legend:**
NL - Not Listed
NA indicates not applicable
Total VOCs - denotes summation of all detected compounds not including TICs (i.e., constituents below the detection limits are assumed to be zero).
TICs- Tentatively Indicated Compounds
Yellow highlighted values exceed NYSDEC Part 703 Groundwater Quality Standards
U - Indicates the compound was analyzed for as part of the standard list but not detected, with the detection limit shown as the value.
J - Indicates an estimated value
T- Result is a tenatatively identified compound (TIC) and an estimated value
N- Presumptive evidence of material
F1- MS and/or MSD Recovery is outside acceptance limits.
** - Indicates a range approximaty 5 feet above and below depth to top of pump during sampling
ML-7S not sampled during Post Injection Event 2 or 3. ML-2S not sampled during Post Injection Event 3. Wells were dry
Red text indicates a change made in the DUSR
R indicates the result was rejected in the DUSR
2020 data not yet validated

**Former Emerson Street Landfill**
**P-1 Design Phase Investigation**
**Table 2**
**Detected Volatile Organic Compounds (VOCs) in Groundwater**
**All Results in Micrograms Per Liter (ug/L) or about Parts per Billion (PPB)**

| Sample Location | | GMX-MW-3 | | | | | | | | | | | | LAB-SBW-12 | | | | | | LAB-SBW-14 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ground Surface Elevation (Feet) | | 543.89 | | | | | | | | | | | | 547.65 | | | | | | 543.99 | | | | | | | | | |
| Sample Elevation Interval (Feet) | | 513.39-518.89 | | 516.89-518.89 | | 513.39-518.89 | | | | 515.89 | | 513.89 | | 515.65-517.65 | | 508.65-510.65 | | | | 517.89-519.89 | | 509.99-511.99 | | 499.39-501.39 | | | | | |
| Sample Depth Below Grade (Feet) | | 25-30.5 | | 25-27 | | 25-30.5 | | | | 28 | | 30 | | 30-32 | | 37-39 | | | | 24.1-26.1 | | 32-34 | | 42.6-44.6 | | | | | |
| Sample Method | | Low Flow | | PDB | | Low-flow | | | | | | | | PDB | | PDB | | Low-flow | | PDB | | | | | | | | Low-flow | |
| Event | | Baseline | | Baseline | | Post Injection 4 | | Post Injection 5 | | Post Injection 6 | | | | Baseline | | Baseline | | Post Injection 5 | | Baseline | | Baseline | | Baseline | | | | Post Injection 5 | |
| Sample Date | | 3/20/2017 | | 5/15/2017 | | 2/27/2019 | | 6/15/2020 | | 9/16/2020 | | 9/16/2020 | | 5/15/2017 | | 5/15/2017 | | 6/15/2020 | | 5/15/2017 | | 5/15/2017 | | 5/15/2017 | | | | 6/15/2020 | |
| **Chlorinated VOCs** | **Part 703 Groundwater Quality Standards ug/L (ppb)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chloroethane | 5 | 156 | | 145 | | 76 | | 170 | | 150 | | 160 | | 5.00 | U J3 | 5.00 | U J3 | 5.0 | U | 5.00 | U J3 | 5.00 | U J3 | 5.00 | U J3 | | | 50 | |
| Chloromethane | NL | 1.0 | U | 12.5 | U | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 2.50 | U J3 J4 | 2.50 | U J4 | 5.0 | U | 2.50 | U J4 | 2.50 | U J4 | 2.50 | U J4 | | | 5.0 | U |
| Chlorobenzene | 5 | 1.0 | U | 5.00 | U | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 1.00 | U J3 J6 | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| Chloroform | 7 | 1.0 | U | 5.00 | U | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 1.00 | U J3 J6 | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| cis-1,2-Dichloroethene | 5 | 164 | | 751 | | 220 | D | 150 | | 5.2 | | 4.0 | U | 2.89 | J3 | 2.60 | | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| Dichlorodifluoromethane | 5 | 1.0 | U | 25.0 | U J0 | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 5.00 | U J3 J4 J5 | 5.00 | U J4 | 5.0 | U | 5.00 | U J4 | 5.00 | U J4 | 5.00 | U J4 | | | 5.0 | U |
| 1,1-Dichloroethene | 5 | 10.0 | U | 5.00 | U | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 1.00 | U J3 | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| 1,1-Dichloroethane | 5 | 2.9 | | 5.00 | U | 0.82 | J | 5.0 | U | 4.0 | U | 4.0 | U | 2.63 | J | 3.00 | | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| 1,2-Dichloroethane | 5 | 1.0 | U | 5.00 | U J0 | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 1.00 | UJ | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| 1,4-Dichlorobenzene | 3 | 1.0 | U | 5.00 | U | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 1.00 | U J3 J6 | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| Methylene chloride | 5 | 1.0 | U | 25.0 | U | 4.5 | J | 5.0 | U | 3.4 | JB | 3.7 | JB | 5.00 | U J3 | 5.00 | U | 5.0 | U | 5.00 | U | 5.00 | U | 5.00 | U | | | 5.0 | U |
| 1,1,1-Trichloroethane | 5 | 1.0 | U | 5.00 | U | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 1.00 | U J3 | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| 1,1,2-Trichlorotrifluoroethane | 5 | 1.0 | U | 5.00 | U | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 1.00 | U J3 | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| 1,1,2-Trichloroethane | 1 | 1.0 | U | 5.00 | U | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 1.00 | U J3 J6 | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| Tetrachloroethene | 5 | 10.0 | U | 5.00 | U | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 1.00 | U J3 | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| trans-1,2-Dichloroethene | 5 | 3.4 | | 5.00 | U | 1.3 | | 5.0 | U | 4.0 | U | 4.0 | U | 1.00 | U J3 | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| Trichloroethene | 5 | 10.0 | U | 5.00 | UJ | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 1.15 | UJ | 1.00 | UJ | 5.0 | U | 1.00 | UJ | 1.00 | UJ | 1.00 | UJ | | | 5.0 | U |
| Vinyl chloride | 2 | 150 | | 305 | | 150 | D | 230 | | 15 | | 7.3 | | 1.00 | U J3 J4 | 1.00 | U J3 J4 | 5.0 | U | 1.00 | U J3 J4 | 1.00 | U J3 J4 | 1.00 | U J3 J4 | | | 5.0 | U |
| **TOTAL CVOCs** | **NA** | **476** | | **1201.00** | | **452.6** | | **550.0** | | **173.6** | | **171** | | **5.52** | | **5.60** | | **ND** | | **ND** | | **ND** | | **ND** | | | | **50.0** | |
| **BTEX VOCs** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Benzene | 1 | 23.3 | | 17.0 | | 12 | | 16 | | 12 | | 12 | | 1.06 | UJ | 1.00 | U | 5.0 | U | 9.90 | J | 1.00 | U | 1.00 | U | | | 24 | |
| Toluene | 5 | 3.3 | | 7.64 | | 3.1 | J | 3.8 | J | 2.2 | | 4.0 | U | 1.00 | U J3 | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| Ethyl Benzene | 5 | 1.0 | U | 5.00 | U | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 1.00 | U J3 | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| m/p-Xylene | 5 | 3.6 | | 10.0 | U | 0.71 | J | 10.0 | U | 8.0 | U | 8.0 | U | 2.00 | U J3 | 2.00 | U | 10.0 | U | 2.00 | U | 2.00 | U | 2.00 | U | | | 10.0 | U |
| o-Xylene | 5 | 2.4 | | 5.00 | U | | | | | 8.0 | U | 8.0 | U | 1.00 | U J3 | 1.00 | U | | | 1.00 | U | 1.00 | U | 1.00 | U | | | | |
| **TOTAL BTEX** | **NA** | **32.60** | | **24.64** | | **15.81** | | **19.80** | | **14.2** | | **12** | | **ND** | | **ND** | | **ND** | | **9.9** | | **ND** | | **ND** | | | | **24.00** | |
| **Other VOCs** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acetone | 50 | 10.0 | U | 250 | U J0 | 3.0 | J | 50.0 | U | 40 | U | 40 | U | 50.0 | UJ | 50.0 | U | 50.0 | U | 50.0 | U | 50.0 | U | 50.0 | U | | | 50 | U |
| 1,4-Dioxane | NL | NA | | 500 | UJ | NA | | 5.0 | U | 4.0 | U | 4.0 | U | 100 | UJ | 100 | UJ | NA | | 100 | UJ | 100 | UJ | 100 | UJ | | | NA | |
| Carbon Disulfide | 60 | 1.0 | U | 5.00 | U | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 1.00 | U J3 | 1.00 | UJ | 5.0 | U | 1.00 | U | 3.48 | J | 3.23 | J | | | 5.0 | U |
| Cyclohexane | NL | 1.0 | U | 5.00 | U | 1.3 | J | 5.7 | | 4.0 | U | 2.1 | J | 1.00 | U J3 J6 | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| Isopropylbenzene | 5 | 1.0 | U | 6.44 | | 5.0 | U | 6.4 | | 4.0 | U | 3.5 | J | 1.00 | U J3 J6 | 1.00 | U | 5.0 | U | 2.87 | J | 1.00 | U | 1.00 | U | | | 14.0 | |
| Methyl tert-butyl ether | 10 | 106 | | 8.17 | J0 | 54 | | 72 | | 67 | | 66 | | 1.04 | J | 1.00 | U | 3.9 | J | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| Methylcyclohexane | NL | 1.0 | U | 5.00 | U | 1.6 | J | 11 | | 4.0 | U | 2.9 | J | 1.00 | U J3 J6 | 1.00 | U | 5.0 | U | 1.30 | U | 1.00 | U | 1.00 | U | | | 15 | |
| Styrene | 5 | 1.0 | U | 5.00 | U | 5.0 | U | 5.0 | U | 4.0 | U | 4.0 | U | 1.00 | U J3 | 1.00 | U | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | | | 5.0 | U |
| 1,3,5-Trimethylbenzene | 5 | 1.0 | U | 5.00 | U | NA | | NA | | 4.0 | U | 4.0 | U | 1.00 | U J3 | 1.00 | U | NA | | 1.00 | U | 1.00 | U | 1.00 | U | | | NA | |
| 1,2,4-Trimethylbenzene | 5 | 1.0 | U | 5.00 | U | NA | | NA | | 4.0 | U | 4.0 | U | 1.00 | U J3 | 1.00 | U | NA | | 1.00 | U | 1.00 | U | 1.00 | U | | | NA | |
| 2-Butanone | 50 | 1.0 | U | 50.0 | U J0 | 50 | U | 5.0 | U | 6.9 | J | 5.8 | J | 10.0 | UJ | 10.0 | U | 5.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | | | 5.0 | U |
| 2-Hexanone | 50 | 1.0 | U | 50.0 | U | 25 | U | 5.0 | U | 20 | U | 20 | U | 10.0 | U J3 | 10.0 | U | 5.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | | | 5.0 | U |
| 4-Methyl-2-pentanone | NL | 1.0 | U | 50.0 | U | 25 | U | 5.0 | U | 20 | U | 20 | U | 10.0 | U J3 | 10.0 | U | 5.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | | | 5.0 | U |
| n-Propylbenzene | 5 | 4.5 | | 5.00 | U | NA | | NA | | NA | | NA | | 1.00 | U J3 | 1.00 | U | NA | | 1.00 | U | 1.00 | U | 1.00 | U | | | NA | |
| Naphthalene | 10 | 2.0 | U | 25.0 | U | NA | | NA | | NA | | NA | | 5.00 | U J3 | 5.00 | U | NA | | 5.00 | U | 5.00 | U | 5.00 | U | | | NA | |
| n-Butylbenzene | 5 | 1.0 | U | 5.00 | U | NA | | NA | | NA | | NA | | 1.00 | U J3 | 1.00 | U | NA | | 1.00 | U | 1.00 | U | 1.00 | U | | | NA | |
| sec-Butylbenzene | 5 | 1.0 | | 5.00 | U | NA | | NA | | NA | | NA | | 1.00 | U J3 | 1.00 | U | NA | | 1.00 | U | 1.00 | U | 1.00 | U | | | NA | |
| VOC TICs | NA | None found | | None found | | 15.9 | TJN | None found | | 13 | TJN | 14 | TJN | None found | | None found | | None found | | None found | | None found | | None found | | | | 57.0 | TJ |
| **TOTAL VOCs** | **NA** | **620.4** | | **1,232.08** | | **528.3** | | **664.9** | | **261.7** | | **263.3** | | **5.52** | | **5.60** | | **3.9** | | **12.77** | | **3.48** | | **3.23** | | | | **103.0** | |

**Legend:**
NL - Not Listed
NA indicates not applicable
Total VOCs - denotes summation of all detected compounds not including TICs (i.e., constituents below the detection limits are assumed to be zero).
TICs- Tentatively Indicated Compounds
Yellow highlighted values exceed NYSDEC Part 703 Groundwater Quality Standards
U - Indicates the compound was analyzed for as part of the standard list but not detected, with the detection limit shown as the value.
J - Indicates an estimated value
T- Result is a tenatatively identified compound (TIC) and an estimated value
N- Presumptive evidence of material
F1- MS and/or MSD Recovery is outside acceptance limits.
** - Indicates a range approximaty 5 feet above and below depth to top of pump during sampling
ML-7S not sampled during Post Injection Event 2 or 3. ML-2S not sampled during Post Injection Event 3. Wells were dry
Red text indicates a change made in the DUSR
R indicates the result was rejected in the DUSR
2020 data not yet validated

**Former Emerson Street Landfill**
**P-1 Design Phase Investigation**
**Table 2**
**Detected Volatile Organic Compounds (VOCs) in Groundwater**
**All Results in Micrograms Per Liter (ug/L) or about Parts per Billion (PPB)**

| Sample Location | | Blind Dupe 1 (LAB-SBW-16) | Blind Dupe 2 (LAB-SBW-16) | Blind Dupe 3 (LAB-SBW-16) | Duplicate (ML-2I) | Dupe (LAB-SBW-15) | Dupe 2 (ML-7I) | Dupe (LAB-SBW-15) | Dupe (ML-2D) | DUPE (ML-7D) | DUPE (LAB-SBW-16) | DUPE (ML-7I) | DUP (ML-7D) | BD-GW-09172020 (LAB-SBW-15) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ground Surface Elevation (Feet) | | 548.08 | 548.08 | 548.08 | 548.3 | 544.55 | 545.5 | 544.55 | 548.3 | 545.5 | 548.08 | 545.5 | 545.5 | 544.55 |
| Sample Elevation Interval (Feet) | | 516.58-518.58 | 508.08-510.08 | 500.18-502.18 | 511.2-516.2 | 505.91-515.91** | 510.2-515.2 | 505.91-515.91** | 505.3-510.3 | 503.0-508.0 | 500.18-502.18 | 510.2-515.2 | 503.0-508.0 | 516.55 |
| Sample Depth Below Grade (Feet) | | 29.5-31.5 | 38-40 | 45.9-47.9 | 32.15-37.15 | 29-39** | 30.3-35.3 | 29-39** | 38.0-43.0 | 37.5-42.5 | 45.9-47.9 | 30.3-35.3 | 37.5-42.5 | 28 |
| Sample Method | | PDB | PDB | PDB | Low-flow | Low-flow | Low-flow | Low-flow | Low-flow | Low-flow | Low-flow | Low-flow | Low-flow | Low-flow |
| Event | | Baseline | Baseline | Baseline | Baseline | Post Injection | Post Injection | Post Injection | Post-Injection | Post Injection | Post Injection | Post Injection | Post Injection | Design phase |
| Sample Date | | 5/15/2017 | 5/15/2017 | 5/15/2017 | 10/18/2017 | 1/2/2018 | 1/8/2018 | 2/21/2018 | 6/15/2018 | 6/14/2018 | 6/13/2018 | 2/26/2019 | 6/15/2020 | 9/17/2020 |
| **Chlorinated VOCs** | **Part 703 Groundwater Quality Standards ug/L (ppb)** | | | | | | | | | | | | | |
| Chloroethane | 5 | 8.76 | 8.68 | 5.00 U | 43 J | 230 | 200 U | 120 | 10 | 26 | 3.9 J | 72 | 180 | 350 |
| Chloromethane | NL | 2.50 U | 2.50 U | 2.50 U | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.00 U | 5.0 U | 5.0 U | 4.0 U | 5.0 U |
| Chlorobenzene | 5 | 1.00 U | 1.00 U | 1.00 U | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.00 U | 5.0 UJ | 5.0 U | 4.0 U | 5.0 U |
| Chloroform | 7 | 5.00 U | 5.00 U | 5.00 U | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.00 U | 5.0 UJ | 5.0 U | 4.0 U | 5.0 U |
| cis-1,2-Dichloroethene | 5 | 186.0 | 183.0 | 18.5 | 3200 J | 3600 | 13000 | 11 | 5.0 U | 64 | 140 J | 190 D | 6.3 | 58 |
| Dichlorodifluoromethane | 5 | 5.00 U J0 | 5.00 U J0 | 5.00 U J0 | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.00 U | 5.0 UJ | 5.0 U | 4.0 U | 5.0 U |
| 1,1-Dichloroethene | 5 | 1.29 U | 1.15 U | 1.00 U | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.00 U | 5.0 U | 2.0 J | 4.0 U | 5.0 U |
| 1,1-Dichloroethane | 5 | 64.0 | 61.7 | 47.2 | 870 J | 73 J | 1900 | 8.7 | 50 | 180 | 34 J | 220 D | 45 | 46 |
| 1,2-Dichloroethane | 5 | 1.00 U J0 | 1.00 U J0 | 1.00 U J0 | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.00 U | 5.0 U | 5.0 U | 4.0 U | 5.0 U |
| 1,4-Dichlorobenzene | 3 | 1.00 U | 1.00 U | 1.00 U | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.00 U | 5.0 UJ | 5.0 U | 4.0 U | 5.0 U |
| Methylene chloride | 5 | 5.00 U | 5.00 U | 5.00 U | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.00 U | 5.0 UJ | 4.6 J | 4.0 | 2.6 J |
| 1,1,1-Trichloroethane | 5 | 29.5 | 28.2 | 2.3 | 530 J | 100 U | 200 U | 5.0 U | 5.6 | 69 | 19 J | 9.9 | 13 | 11 |
| 1,1,2-Trichlorotrifluoroethane | 5 | 91.9 | 89.2 | 1.3 | 710 J | 100 U | 300 | 5.0 U | 5.0 U | 4.6 J | 16 | 57 | 1.4 J | 5.9 |
| 1,1,2-Trichloroethane | 1 | 1.00 U | 1.00 U | 1.00 U | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.00 U | 5.0 UJ | 5.0 U | 4.0 U | 5.0 U |
| Tetrachloroethene | 5 | 1.11 | 1.16 | 1.00 U | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.00 U | 5.0 UJ | 3.3 J | 4.0 U | 5.0 U |
| trans-1,2-Dichloroethene | 5 | 6.51 | 6.70 | 1.00 U | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.00 U | 5.0 UJ | 7.8 | 4.0 U | 5.0 U |
| Trichloroethene | 5 | 7.12 J | 6.90 J | 2.67 J | 280 J | 100 U | 200 U | 5.0 U | 5.0 U | 13 | 5.0 UJ | 9.6 | 2.7 J | 5.0 U |
| Vinyl chloride | 2 | 117 | 114.00 | 11.90 | 1000 J | 1600 | 3500 | 14 | 5.0 U | 16 | 83 J | 170 D | 4.0 U | 46 |
| **TOTAL CVOCs** | **NA** | **511.90** | **499.54** | **83.88** | **6633** | **5503** | **18700** | **154** | **65.6** | **373** | **296** | **746** | **252** | **520** |
| **BTEX VOCs** | | | | | | | | | | | | | | |
| Benzene | 1 | 12.20 | 12.00 | 1.00 U | R | 54 J | 200 U | 9.1 | 20 | 8.0 | 23 J | 20 | 6.2 | 45.0 |
| Toluene | 5 | 6.0 | 6.0 | 1.00 U | 170 J | 100 U | 330 | 8.3 | 9.5 | 5.00 U | 10 J | 84 | 4.0 U | 6.2 |
| Ethyl Benzene | 5 | 4.0 | 3.9 | 1.00 U | R | 100 U | 200 U | 5.0 U | 11 | 5.00 U | 13 J | 2.2 | 4.0 U | |
| m/p-Xylene | 5 | 6.4 | 6.1 | 2.00 U | R | 200 U | 400 U | 8.4 J | 86 | 10.0 U | 160 J | 7.0 J | 8.0 U | 6.0 J |
| o-Xylene | 5 | 3.8 | 3.8 | 1.00 U | R | | | | | | | | | |
| **TOTAL BTEX** | **NA** | **32.42** | **31.65** | **ND** | **170** | **54** | **330** | **26** | **126.5** | **8.0** | **206** | **113** | **6.2** | **57.2** |
| **Other VOCs** | | | | | | | | | | | | | | |
| Acetone | 50 | 50.0 U J0 | 50.0 U J0 | 50.0 U J0 | R | 1000 U | 2000 UJ | 50 U | 50 U | 29 J | 21 J | 5.0 J | 40.0 U | 50 U |
| 1,4-Dioxane | NL | 100 UJ | 100 UJ | 100 UJ | NA | NA | NA | NA | NA | NA | 5.0 U | NA | NA | 5.0 U |
| Carbon Disulfide | 60 | 1.00 U | 1.00 U | 1.30 | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.0 U | 5.0 UJ | 5.0 U | 4.0 U | 5.0 U |
| Cyclohexane | NL | 1.00 U | 1.00 U | 1.00 U | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.0 U | 5.0 UJ | 5.0 U | 4.0 U | 5.0 U |
| Isopropylbenzene | 5 | 1.00 U | 1.00 U | 1.00 U | R | 100 U | 200 U | 5.0 U | 23 | 5.0 U | 37 J | 5.0 U | 4.0 U | 4.6 J |
| Methyl tert-butyl ether | 10 | 1.00 U J0 | 1.00 U J0 | 1.00 U J0 | R | 100 U | 200 U | 2.7 J | 31 | 1.7 J | 53 J | 1.4 J | 1.6 J | 7.1 |
| Methylcyclohexane | NL | 1.00 U | 1.00 U | 1.00 U | R | 100 U | 200 U | 7.0 | 1.3 J | 5.0 U | 1.3 J | 0.48 J | 4.0 U | 18.0 |
| Styrene | 5 | 1.00 U | 1.00 U | 1.00 U | R | 100 U | 200 U | 5.0 U | 5.0 U | 5.0 U | 5.0 UJ | 5.0 U | 4.0 U | 5.0 U |
| 1,3,5-Trimethylbenzene | 5 | 1.00 U | 1.00 U | 1.00 U | NA | NA | NA | NA | NA | NA | 5.0 U | NA | NA | 5.0 U |
| 1,2,4-Trimethylbenzene | 5 | 1.00 U | 1.00 U | 1.00 U | NA | NA | NA | NA | NA | NA | 5.0 U | NA | NA | 5.0 U |
| 2-Butanone | 50 | 10.0 U J0 | 10.0 U J0 | 10.0 U J0 | R | 1000 U | 2000 U | 16 J | 50 U | 12 J | 50.0 UJ | 8.8 J* | 4.0 U | 50 U |
| 2-Hexanone | 50 | 10.0 U | 10.0 U | 10.0 U | R | 500 U | 1000 U | 25 U | 25 U | 25.0 U | 25.0 UJ | 25.0 U | 4.0 U | 25 U |
| 4-Methyl-2-pentanone | NL | 10.0 U | 10.0 U | 10.0 U | R | 500 U | 1000 U | 25 U | 25 U | 25.0 U | 5.0 UJ | 25.0 U | 4.0 U | 25 U |
| n-Propylbenzene | 5 | 1.00 U | 1.00 U | 1.00 U | NA | NA | NA | NA | NA | NA | 5.0 U | NA | NA | NA |
| Naphthalene | 10 | 5.00 U | 5.00 U | 5.00 U | NA | NA | NA | NA | NA | NA | 5.0 U | NA | NA | NA |
| n-Butylbenzene | 5 | 1.00 U | 1.00 U | 1.00 U | NA | NA | NA | NA | NA | NA | 5.0 U | NA | NA | NA |
| sec-Butylbenzene | 5 | 1.00 U | 1.00 U | 1.00 U | NA | NA | NA | NA | NA | NA | 5.0 U | NA | NA | NA |
| VOC TICs | NA | None found | None found | None found | None found | None found | 810 TJN | None found | 66.0 TJN | 55.0 TJN | 160.0 TJN | 149.3 TJN | None found | 46.0 TJN |
| **TOTAL VOCs** | **NA** | **544.32** | **531.19** | **85.18** | **6,803** | **5,557** | **19,030** | **205** | **247.4** | **423.3** | **614.2** | **875.1** | **260.2** | **606.4** |

**Legend:**
NL - Not Listed
NA indicates not applicable
Total VOCs - denotes summation of all detected compounds not including TICs (i.e., constituents below the detection limits are assumed to be zero).
TICs- Tentatively Indicated Compounds
Yellow highlighted values exceed NYSDEC Part 703 Groundwater Quality Standards
U - Indicates the compound was analyzed for as part of the standard list but not detected, with the detection limit shown as the value.
J - Indicates an estimated value
T- Result is a tenatatively identified compound (TIC) and an estimated value
N- Presumptive evidence of material
F1- MS and/or MSD Recovery is outside acceptance limits.
** - Indicates a range approximaty 5 feet above and below depth to top of pump during sampling
ML-7S not sampled during Post Injection Event 2 or 3. ML-2S not sampled during Post Injection Event 3. Wells were dry
Red text indicates a change made in the DUSR
R indicates the result was rejected in the DUSR
2020 data not yet validated

**Former Emerson Street Landfill**
**P-1 Plume Design Phase Investigation**
**Table 2**
**Detected Volatile Organic Compounds (VOCs) in Groundwater**
**All Results in Micrograms Per Liter (ug/L) or about Parts per Billion (PPB)**

| Sample Location | | LAB-SBW-17 (42) | | LAB-SBW-17 (52) | | LAB-SBW-18 (38) | | LAB-SBW-18 (47) | | LAB-SBW-19 (35) | | LAB-SBW-19 (47) | LAB-SBW-20 (35) | | LAB-SBW-20 (34) | | GMX-MW-3 (28) | | GMX-MW-3 (30) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Depth Below Grade (Feet)** | | **42** | | **52** | | **38** | | **47** | | **35** | | **47** | | | **43** | | **28** | | **30** | |
| **Sample Date** | | **9/16/2020** | | **9/16/2020** | | **9/16/2020** | | **9/16/2020** | | **9/16/2020** | | **9/16/2020** | **12/14/2020** | | **12/14/2020** | | **9/16/2020** | | **9/16/2020** | |
| **Chlorinated VOCs** | **Part 703 Groundwater Quality Standards ug/L (ppb)** | | | | | | | | | | | | | | | | | | | |
| Chloroethane | 5 | 5.6 | | 1.2 | | 4.0 | U | 74 | | 4.0 | U | 1.4 | 21 | | 4.8 | | 150 | | 160 | |
| Chloromethane | NL | 1.00 | U | 2.00 | U | 68 | | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| Chlorobenzene | 5 | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| Chloroform | 7 | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| cis-1,2-Dichloroethene | 5 | 8.1 | | 2.8 | | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 130.0 | | 19.0 | | 5.2 | | 4.0 | U |
| Dichlorodifluoromethane | 5 | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| 1,1-Dichloroethene | 5 | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| 1,1-Dichloroethane | 5 | 15 | | 14 | | 2.9 | J | 3.9 | J | 4.3 | | 3.4 | 89.0 | | 34.0 | | 4.0 | U | 4.0 | U |
| 1,2-Dichloroethane | 5 | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| 1,4-Dichlorobenzene | 3 | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| Methylene chloride | 5 | 1.3 | JB | 0.52 | JB | 4.9 | B | 3.5 | JB | 5.4 | B | 3.9 | 2.6 | J | 2.6 | J | 3.4 | JB | 3.7 | JB |
| 1,1,1-Trichloroethane | 5 | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 33.0 | | 4.0 | U | 4.0 | U | 4.0 | U |
| 1,1,2-Trichlorotrifluoroethane | 5 | 1.00 | U | 0.95 | J | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| 1,1,2-Trichloroethane | 1 | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| Tetrachloroethene | 5 | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| trans-1,2-Dichloroethene | 5 | 2.0 | | 2.1 | | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| Trichloroethene | 5 | 1.00 | U | 1.2 | | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 8.6 | | 4.0 | U | 4.0 | U | 4.0 | U |
| Vinyl chloride | 2 | 5.5 | | 1.5 | | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 42.0 | | 5.6 | | 15 | | 7.3 | |
| **TOTAL CVOCs** | **NA** | **37.50** | U | **24.27** | | **75.8** | | **81.4** | | **9.7** | | **8.7** | **326** | | **66** | | **173.6** | | **171** | |
| **BTEX VOCs** | | | | | | | | | | | | | | | | | | | | |
| Benzene | 1 | 2.4 | | 2.00 | U | 15 | | 18 | | 4.0 | U | 4.0 | 12 | | 2.9 | J | 12 | | 12 | |
| Toluene | 5 | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 2.8 | J | 4.0 | U | 2.2 | | 4.0 | U |
| Ethyl Benzene | 5 | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| m/p-Xylene | 5 | 2.00 | U | 4.00 | U | 8.00 | U | 8.0 | U | 8.0 | U | 8.0 | 8.0 | U | 8.0 | U | 8.0 | U | 8.0 | U |
| o-Xylene | 5 | | | | | | | | | | | | | | | | | | | |
| **TOTAL BTEX** | **NA** | **2.40** | | **ND** | | **15** | | **18** | | **ND** | | **ND** | **14.8** | | **2.9** | | **14.2** | | **12** | |
| **Other VOCs** | | | | | | | | | | | | | | | | | | | | |
| Acetone | 50 | 10.0 | U | 20 | U | 40 | U | 40 | U | 40 | U | 40 | 40 | U | 40 | U | 40 | U | 40 | U |
| Carbon Disulfide | 60 | 2.00 | | 0.32 | J | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| Cyclohexane | NL | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 2.1 | J |
| Isopropylbenzene | 5 | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 3.5 | J |
| Methyl tert-butyl ether | 10 | 7.0 | | 0.27 | J | 61 | | 63 | | 4.3 | | 2.2 | 1.2 | J | 4.0 | U | 67 | | 66 | |
| Methylcyclohexane | NL | 1.00 | U | 2.00 | U | 0.74 | J | 1.6 | J | 4.0 | U | 4.0 | 0.99 | J | 1.4 | J | 4.0 | U | 2.9 | J |
| Styrene | 5 | 1.00 | U | 2.00 | U | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | 4.0 | U | 4.0 | U | 4.0 | U | 4.0 | U |
| 2-Butanone | 50 | 10.0 | U | 20 | U | 8.8 | J | 40 | U | 8.7 | J | 40 | 40 | U | 4.0 | U | 6.9 | J | 5.8 | J |
| 2-Hexanone | 50 | 5.0 | U | 10 | U | 20 | U | 20 | U | 20 | U | 20 | 20 | U | 4.0 | U | 20 | U | 20 | U |
| 4-Methyl-2-pentanone | NL | 5.0 | U | 10 | U | 20 | U | 20 | U | 20 | U | 20 | 20 | U | 4.0 | U | 20 | U | 20 | U |
| VOC TICs | NA | None Found | | None Found | | 40 | TJ | 46 | TJN | None Found | | None Found | NA | | NA | | 13 | TJN | 14 | TJN |
| **TOTAL VOCs** | **NA** | **48.90** | | **25** | | **161** | | **164** | | **23** | | **11** | **343.2** | | **70.3** | | **261.7** | | **263.3** | |
| **TOTAL CONCENTRATION (VOCs + TICS)** | | **48.90** | | **25** | | **201** | | **210** | | **23** | | **11** | **343.2** | | **70.3** | | **274.7** | | **277.3** | |

**Legend:**
NL - Not Listed
NA indicates not applicable
Total VOCs - denotes summation of all detected compounds not including TICs (i.e., constituents below the detection limits are assumed to be zero).
TICs- Tentatively Indicated Compounds
Yellow highlighted values exceed NYSDEC Part 703 Groundwater Quality Standards
U - Indicates the compound was analyzed for as part of the standard list but not detected, with the detection limit shown as the value.
J - Indicates an estimated value
T- Result is a tenatatively identified compound (TIC) and an estimated value
N- Presumptive evidence of material
F1- MS and/or MSD Recovery is outside acceptance limits.
2020 data not yet validated

**Former Emerson Street Landfill**
**P-1 Plume Design Phase Investigation**
**Table 2**
**Detected Volatile Organic Compounds (VOCs) in Groundwater**
**All Results in Micrograms Per Liter (ug/L) or about Parts per Billion (PPB)**

| Sample Location | | LAB-SBW-03 | | LAB-SBW-07 | | LAB-SBW-07 (13:30) | | LAB-SBW-07 (14:50) | | LAB-SBW-07 (Bench Test Day 0) | | LAB-SBW-07 (Column Test Day 0) | | LAB-SBW-07 (Column Test Day 0) Dupe | | LAB-SBW-07 (12:10) | | LAB-SBW-07 (13:35) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Depth Below Grade (Feet)** | | **30** | | **32** | | **32** | | **32** | | **32** | | **32** | | **32** | | **32** | | **32** | |
| **Sample Date** | | **9/23/2020** | | **9/23/2020** | | **9/28/2020** | | **9/28/2020** | | **9/28/2020** | | **9/28/2020** | | **9/28/2020** | | **11/30/2020** | | **11/30/2020** | |
| **Chlorinated VOCs** | **Part 703 Groundwater Quality Standards ug/L (ppb)** | | | | | | | | | | | | | | | | | | |
| Chloroethane | 5 | 12 | | 28 | | 32 | | 26.5 | | 99 | | 19 | | 23 | | 10 | | 2 | U |
| Chloromethane | NL | 5.0 | U | 20 | U | 10.0 | U | 10.0 | U | 12 | U | 6.2 | U | 10 | U | 2 | U | 2 | U |
| Chlorobenzene | 5 | 5.0 | U | 20 | U | 10.0 | U | 10.0 | U | 12 | U | 6.2 | U | 10 | U | 2 | U | 2 | U |
| Chloroform | 7 | 5.0 | U | 20 | U | 10.0 | U | 10.0 | U | 12 | U | 6.2 | U | 10 | U | 2 | U | 2 | U |
| cis-1,2-Dichloroethene | 5 | 110 | | 880 | | 795 | | 525 | | 340 | | 460 | | 630 | | 79 | | 58.5 | |
| Dichlorodifluoromethane | 5 | 5.0 | U | 20 | U | 10.0 | U | 10.0 | U | 25 | U | 12.0 | U | 12 | U | 2 | U | 2 | U |
| 1,1-Dichloroethene | 5 | 5.0 | U | 18 | J | 14.1 | | 10.5 | | 5.6 | | 7.8 | | 10.0 | | 2 | U | 2 | U |
| 1,1-Dichloroethane | 5 | 26 | | 690 | | 682 | | 478 | | 300 | | 450 | | 610 | | 102 | | 89.6 | |
| 1,2-Dichloroethane | 5 | 5.0 | U | 20 | U | 10.0 | U | 10.0 | U | 2.5 | U | 6.2 | U | 10.0 | U | 2 | U | 2 | U |
| 1,4-Dichlorobenzene | 3 | 5.0 | U | 20 | U | 10.0 | U | 10.0 | U | 12 | U | 6.2 | U | 10 | U | 2 | U | 2 | U |
| Methylene chloride | 5 | 3.6 | J | 11 | J | 25.0 | U | 25.0 | U | 12 | U | 6.2 | U | 10 | U | 2 | U | 2 | U |
| 1,1,1-Trichloroethane | 5 | 17 | | 380 | | 389 | | 256 | | 160 | | 220 | | 310 | | 35 | | 25.7 | |
| 1,1,2-Trichlorotrifluoroethane | 5 | 33 | | 490 | | 605 | | 411 | | NA | | 170 | | 370 | | 116 | | 90.8 | |
| 1,1,2-Trichloroethane | 1 | 5.0 | U | 20 | U | 10.0 | U | 10.0 | U | NA | | NA | | NA | | 2 | U | 2 | U |
| Tetrachloroethene | 5 | 2.0 | J | 8.5 | J | 7.88 | | 5.17 | | 350 | | 420 | | 76 | | 2 | U | 2 | U |
| trans-1,2-Dichloroethene | 5 | 5.0 | U | 20 | U | 11 | | 8.15 | | 4.7 | J | 5.4 | J | 7.2 | J | 2.71 | | 2.34 | |
| Trichloroethene | 5 | 5.0 | U | 35 | | 29.5 | | 19.4 | | 22 | | 24 | | 17 | | 2.26 | | 2 | U |
| Vinyl chloride | 2 | 26 | | 490 | | 567 | | 380 | | 200 | | 250 | | 380 | | 91.5 | | 67.9 | |
| **TOTAL CVOCs** | **NA** | **230** | | **3,031** | | **3,132** | | **2,120** | | **1,481** | | **2,026** | | **2,433** | | **438** | **U** | **335** | |
| **BTEX VOCs** | | | | | | | | | | | | | | | | | | | |
| Benzene | 1 | 4.2 | J | 12 | J | 10.6 | | 7.95 | | 5.2 | | 3.6 | | 3.9 | | 2.78 | | 2.24 | |
| Toluene | 5 | 3.1 | J | 130 | | 112 | | 67.9 | | 40 | | 3.2 | | 3.3 | | 29.6 | | 22.1 | |
| Ethyl Benzene | 5 | 5.0 | U | 23 | | 12.4 | | 7.78 | | 12 | U | 6.2 | | 10.0 | | 3.15 | | 2.27 | |
| m/p-Xylene | 5 | 10 | U | 120 | | 43.2 | | 23.6 | | 14 | | 6.2 | | 10.0 | | 12.20 | | 8.84 | |
| o-Xylene | 5 | | | | | 13.9 | | 9.23 | | 10 | J | 6.2 | | 10.0 | | 3.69 | | 2.70 | |
| **TOTAL BTEX** | **NA** | **7.3** | | **285** | | **192** | | **116** | | **69** | | 6.8 | | 7.2 | | **51** | | **38** | |
| **Other VOCs** | | | | | | | | | | | | | | | | | | | |
| Acetone | 50 | 50 | U | 200 | U | 50.0 | U | 50.0 | U | 8.9 | J | 6.2 | U | 10 | U | 2 | U | 2 | U |
| Carbon Disulfide | 60 | 5.0 | U | 20 | U | 10.0 | U | 10.0 | U | 25 | U | 6.2 | U | 10 | U | 2 | U | 2 | U |
| Cyclohexane | NL | 5.0 | U | 20 | U | 50.0 | U | 50.0 | U | NA | | 6.2 | U | 10 | U | 2 | U | 2 | U |
| Isopropylbenzene | 5 | 5.0 | U | 20 | U | 10.0 | U | 10.0 | U | 12 | U | 6.2 | U | 10 | U | 2 | U | 2 | U |
| Methyl tert-butyl ether | 10 | 5.0 | U | 20 | U | 10.0 | U | 10.0 | U | 12 | U | 6.2 | U | 10 | U | 2 | U | 2 | U |
| Methylcyclohexane | NL | 5.0 | U | 7.5 | J | 5.0 | | 10.0 | U | NA | | 6.2 | U | 10 | U | 2 | U | 2 | U |
| Styrene | 5 | 5.0 | U | 20 | U | 25.0 | U | 25.0 | U | 12 | U | 6.2 | U | 10 | U | 2 | U | 2 | U |
| 2-Butanone | 50 | 50 | U | 200 | U | 50.0 | U | 50.0 | U | 25 | U | 6.2 | U | 10 | U | 2 | U | 2 | U |
| 2-Hexanone | 50 | 25 | U | 100 | U | 25.0 | U | 25.0 | U | 25 | U | 6.2 | U | 10 | U | 2 | U | 2 | U |
| 4-Methyl-2-pentanone | NL | 25 | U | 100 | U | 25.0 | U | 25.0 | U | 25 | U | 6.2 | U | 10 | U | 2 | U | 2 | U |
| VOC TICs | NA | None found | | 167 | TJ | None found | | None found | | NA | | NA | | NA | | NA | | NA | |
| **TOTAL VOCs** | **NA** | **237** | | **3,323** | | **3,330** | | **2,236** | | **1,559** | | **2033** | | **2440** | | **489** | | **373** | |
| **TOTAL CONCENTRATION (VOCs + TICS)** | | **237** | | **3,490** | | **3,330** | | **2,236** | | **1,559** | | **2033** | | **2440** | | **489** | | **373** | |

**Legend:**
NL - Not Listed
NA indicates not applicable
Total VOCs - denotes summation of all detected compounds not including TICs (i.e., constituents below the detection limits are assumed to be zero).
TICs- Tentatively Indicated Compounds
Yellow highlighted values exceed NYSDEC Part 703 Groundwater Quality Standards
U - Indicates the compound was analyzed for as part of the standard list but not detected, with the detection limit shown as the value.
J - Indicates an estimated value
T- Result is a tenatatively identified compound (TIC) and an estimated value
N- Presumptive evidence of material
F1- MS and/or MSD Recovery is outside acceptance limits.
2020 data not yet validated

**Former Emerson Street Landfill**
**P-1 Plume Design Phase Investigation**
**Table 2**
**Detected Volatile Organic Compounds (VOCs) in Groundwater**
**All Results in Micrograms Per Liter (ug/L) or about Parts per Billion (PPB)**

| Sample Location | | Trip Blank | | Trip Blank | | Trip Blank | |
|---|---|---|---|---|---|---|---|
| Sample Depth Below Grade (Feet) | | NA | | NA | | NA | |
| Sample Date | | 9/16/2020 | | 9/23/2020 | | 9/28/2020 | |
| **Chlorinated VOCs** | **Part 703 Groundwater Quality Standards ug/L (ppb)** | | | | | | |
| Chloroethane | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| Chloromethane | NL | 1.00 | U | 1.0 | U | 2.00 | U |
| Chlorobenzene | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| Chloroform | 7 | 1.00 | U | 1.0 | U | 2.00 | U |
| cis-1,2-Dichloroethene | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| Dichlorodifluoromethane | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| 1,1-Dichloroethene | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| 1,1-Dichloroethane | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| 1,2-Dichloroethane | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| 1,4-Dichlorobenzene | 3 | 1.00 | U | 1.0 | U | 2.00 | U |
| Methylene chloride | 5 | 1.2 | B | 0.58 | J | 5.00 | U |
| 1,1,1-Trichloroethane | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| 1,1,2-Trichlorotrifluoroethane | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| 1,1,2-Trichloroethane | 1 | 1.00 | U | 1.0 | U | 2.00 | U |
| Tetrachloroethene | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| trans-1,2-Dichloroethene | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| Trichloroethene | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| Vinyl chloride | 2 | 1.00 | U | 1.0 | U | 2.00 | U |
| **TOTAL CVOCs** | **NA** | **1.2** | | **0.58** | | **ND** | |
| **BTEX VOCs** | | | | | | | |
| Benzene | 1 | 1.00 | U | 1.0 | U | 1.00 | U |
| Toluene | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| Ethyl Benzene | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| m/p-Xylene | 5 | 2.00 | U | 2.0 | U | 2.00 | U |
| o-Xylene | 5 | | | | | 2.00 | U |
| **TOTAL BTEX** | **NA** | **ND** | U | **ND** | | **ND** | |
| **Other VOCs** | | | | | | | |
| Acetone | 50 | 10.0 | U | 10 | U | 10.0 | U |
| Carbon Disulfide | 60 | 1.00 | U | 1.0 | U | 2.00 | U |
| Cyclohexane | NL | 1.00 | U | 1.0 | U | 10.00 | U |
| Isopropylbenzene | 5 | 1.00 | U | 1.0 | U | 2.00 | U |
| Methyl tert-butyl ether | 10 | 1.00 | U | 1.0 | U | 2.00 | U |
| Methylcyclohexane | NL | 1.00 | U | 1.0 | U | 2.00 | U |
| Styrene | 5 | 1.00 | U | 1.0 | U | 5.00 | U |
| 2-Butanone | 50 | 10.0 | U | 10 | U | 10.0 | U |
| 2-Hexanone | 50 | 5.0 | U | 5.0 | U | 5.00 | U |
| 4-Methyl-2-pentanone | NL | 5.0 | U | 5.0 | U | 5.00 | U |
| VOC TICs | NA | None Found | | None found | | None found | |
| **TOTAL VOCs** | **NA** | **1.2** | | **0.58** | | **ND** | |
| **TOTAL CONCENTRATION (VOCs + TICS)** | | **1.2** | | **0.58** | | **ND** | |

**Legend:**
NL - Not Listed
NA indicates not applicable
Total VOCs - denotes summation of all detected compounds not including TICs (i.e., constituents below the detection limits are assumed to be zero).
TICs- Tentatively Indicated Compounds
Yellow highlighted values exceed NYSDEC Part 703 Groundwater Quality Standards
U - Indicates the compound was analyzed for as part of the standard list but not detected, with the detection limit shown as the value.
J - Indicates an estimated value
T- Result is a tenatatively identified compound (TIC) and an estimated value
N- Presumptive evidence of material
F1- MS and/or MSD Recovery is outside acceptance limits.
2020 data not yet validated

# Table 3
# Tracer Test
# FESL P-1 Plume
# Design Phase Investigation

**Tracer Test Details:**

Tracer Solution - 940 mg/L Br

Tracer Placement - ML-2 & IP-2 on 12/17/20 @ ~1030 am

IP-2 is approximately 16.5 ft. upgradient (north-northwest) of LBA-SBW-15

ML-2 approximately 6.5 ft. North of LBA-SBW-16

| Well ID | LBA-SBW-15 | | LBA-SBW-16 | |
|---|---|---|---|---|
| Parameter | $Br^-$ | Cond. | $Br^-$ | Cond. |
| Units | mg/L | µS | mg/L | µS |
| 12/17/2020 | < 0.5 | -- | < 0.5 | -- |
| 12/18/2020 | 0.66 | -- | 1.25 | -- |
| 12/19/2020 | 0.75 | 2,862 | 1.43 | 4,617 |
| 12/20/2020 | 1.7 | 2,844 | 1.3 | 4,700 |
| 12/21/2020 | < 0.5 | 2,735 | 1.3 | 4,700 |
| 12/22/2020 | < 0.5 | 2,823 | 1.2 | 4,735 |
| 12/23/2020 | 3.55 | 2,758 | 3.11 | 4,699 |
| 12/24/2020 | 3.46 | 2,789 | 2.95 | 4,663 |
| 12/25/2020 | Not Collected | | | |
| 12/26/2020 | 3.62 | 2,935 | 2.87 | 4,761 |
| 12/27/2020 | 3.8 | 2,876 | 3.16 | 4,740 |
| 12/28/2020 | * *1.3* | 2,865 | * *0.76* | 4,792 |
| 12/29/2020 | 3.65 | 2,892 | 3.12 | 4,732 |
| 12/30/2020 | 2.82 | 2,817 | 2.62 | 4,670 |
| 12/31/2020 | 3.2 | 2,794 | 2.9 | 4,920 |
| 1/1/2021 | Not Collected | | | |
| 1/2/2021 | | | | |
| 1/3/2021 | 3.43 | 2,997 | 2.91 | 4,789 |
| 1/4/2021 | 3.31 | 2,904 | 2.87 | 4,847 |
| 1/5/2021 | 3.8 | -- | 2.85 | -- |
| 1/6/2021 | 3.5 | 2,834 | 2.76 | 4,804 |
| 1/7/2021 | 3.56 | 2,863 | 3.06 | 4,770 |
| 1/8/2021 | 3.33 | -- | 3.1 | -- |
| 1/9/2021 | Not Collected | | | |
| 1/10/2021 | | | | |
| 1/11/2021 | 3.47 | -- | 3.3 | -- |
| 1/12/2021 | Not Collected | | | |
| 1/13/2021 | 3.57 | -- | 3.42 | -- |
| 1/14/2021 | Not Collected | | | |
| 1/15/2021 | 1.32 | -- | 0.961 | -- |
| 1/16/2021 | Not Collected | | | |
| 1/17/2021 | | | | |
| 1/18/2021 | 1.41 | -- | 0.946 | -- |

Notes:

-- Meter not available

* denotes anomalous readings not included in Graph

**Source Well Samples on 30th**

ML-2: 23.5 mg/L Br & 4,034 µS

IP-2 - 231 mg/L Br & 2,214 µS

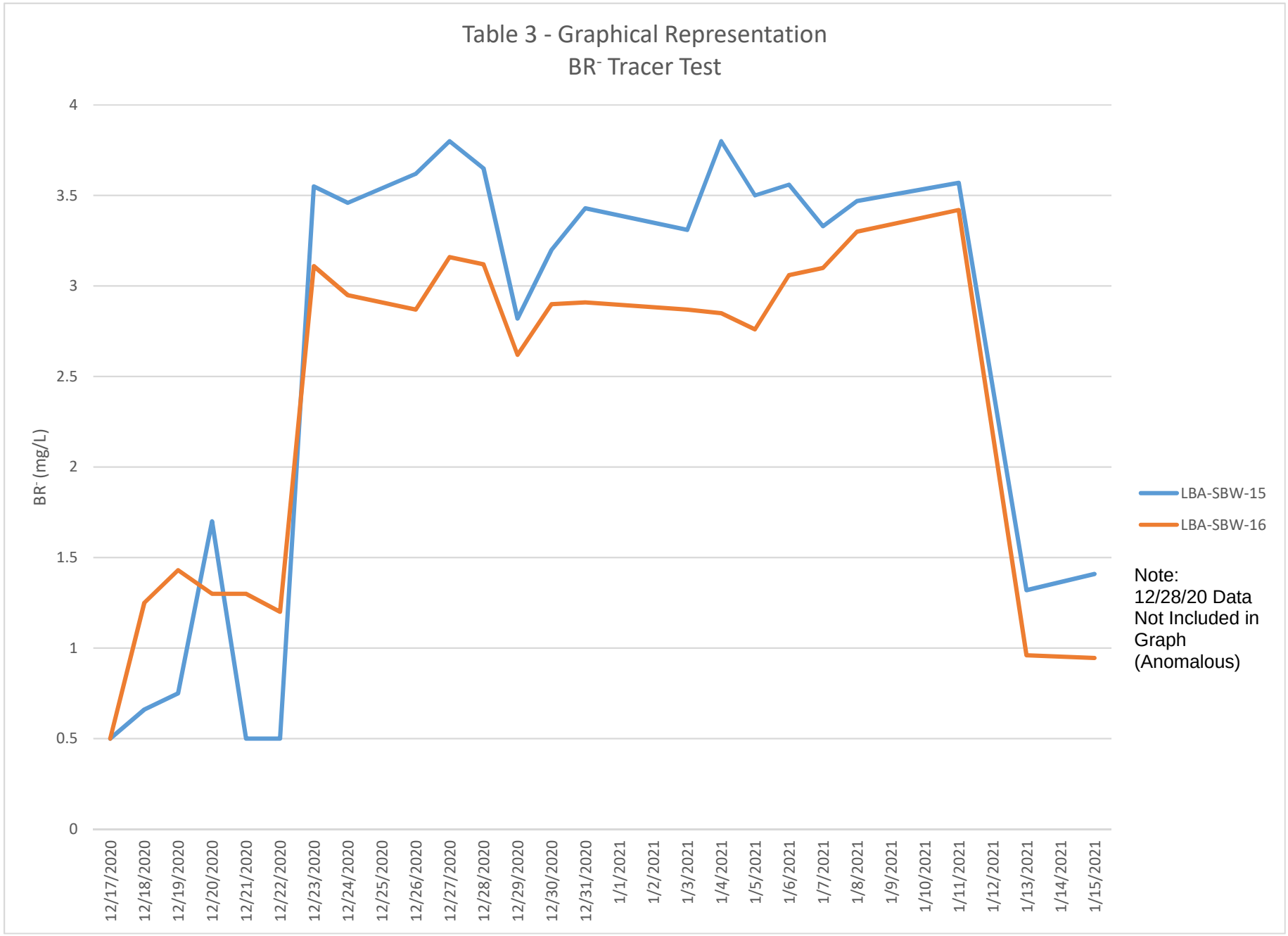
Table 3 - Graphical Representation
BR- Tracer Test
BR- (mg/L)
4
3.5
3
2.5
2
1.5
1
0.5
0
12/17/2020
12/18/2020
12/19/2020
12/20/2020
12/21/2020
12/22/2020
12/23/2020
12/24/2020
12/25/2020
12/26/2020
12/27/2020
12/28/2020
12/29/2020
12/30/2020
12/31/2020
1/1/2021
1/2/2021
1/3/2021
1/4/2021
1/5/2021
1/6/2021
1/7/2021
1/8/2021
1/9/2021
1/10/2021
1/11/2021
1/12/2021
1/13/2021
1/14/2021
1/15/2021
LBA-SBW-15
LBA-SBW-16
Note:
12/28/20 Data
Not Included in
Graph
(Anomalous)

# APPENDIX 1

Design Phase Investigation
Data Package

# Design Phase Investigation
# Boring Logs/Well Construction Logs

## Boring Location

**NORTHING:** _____ **EASTING:** _____ **STATION:** _____ **OFFSET:** _____
**HORIZONTAL DATUM:** _____ **STATION CENTERLINE:** _____
**VERTICAL DATUM:** _____ **ESTIMATED GROUND SURFACE ELEV. (FT):** _____
**LOCATION:** Former Emerson St. Landfill

**BORING**

# LAB-SBW-17



## Drilling Information

DATE START / END: 9/2/2020 - 9/3/2020
TOTAL DEPTH (FT): 53.0
CONTRACTOR: Labella Associates
DRILLER: Chris Stone
LOGGED BY (Person): M. Cummings
EQUIPMENT: CME 55
BORING METHOD: Hollow Stem Auger
AUGER ID/OD: 4.25 in / 10 in
CASING ID/OD: 4 in / N/A
CORE INFO: Type: HQ
HAMMER TYPE: Automatic
HAMMER WEIGHT (lbs): 140
HAMMER DROP (inch): 30
WATER LEVEL DEPTHS (ft):
GENERAL NOTES:

**ABBREVIATIONS:**
ID = Inside Diameter; OD = Outside Diameter; Pen. = Penetration Length; Rec. = Recovery Length
bpf = Blows per Foot; mpf = Minute per Foot; S = Split Spoon; DP = Direct Push Sample
U = Undisturbed Tube Sample; C = Rock Core; V = Field Vane Shear; SC = Sonic Core
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; OVM = Organic Vapor Meter
$Q_v$ = Pocket Penetrometer Strength; $S_v$ = Pocket Torvane Shear Strength; $F_v$ = Field Vane Shear Strength; NA, NM = Not Applicable, Not Measured

| Elev. (ft) | Depth (ft) | Casing Pen. (bpf) or Core Rate (mpf) | SAMPLE INFORMATION: Sample No. | Type | Depth (ft) | Pen./ Rec. (in) | Blows Count or RQD | Field Test Data | GRAPHIC LOG | Sample Description & Classification | $H_2O$ Depth | WELL CONSTRUCTION DETAILS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | 0 to 5 | 60/23 | | OVM=0 | | **SOIL/FILL** Light brown to dark grey fine to medium sand with silt and medium angular gravel. Few cobbles throughout (rig grinding). Moist, soft. | | 4" permanent casing |
| | 5 | | | | | | | | | Frequent grinding on cobbles. No samples collected 5-15' bgs. Soil/fill returned in cuttings. | | |
| | 10 | | | | | | | | | Frequent grinding on cobbles. | | |
| | 15 | | 2 | | 15 to 20 | 60/32 | | OVM=5.4 | | | | |
| | 20 | | 3 | | 20 to 25 | 60/23 | | OVM=16.8 | | **WASTE** Black fine sand with fine rounded gravel, glass, metal fragements, cinders. Dry to moist. | | |

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

**CLIENT:** City of Rochester
**PROJECT NAME:** Fomer Emerson Street Landfill
**CITY/STATE:** Rochester, New York
**GEI PROJECT NUMBER:** 1331890

**GEI Consultants, Inc. PC**
100 Sylvan Parkway Suite 400
Amherst, NY 14228
(716) 204-7154

GEOTECHNICAL BORING LOG 02 2017 MW LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 12/17/20

**Boring Location**

**NORTHING:** _____ **EASTING:** _____ **STATION:** _____ **OFFSET:** _____

**HORIZONTAL DATUM:** _____ **STATION CENTERLINE:** _____

**VERTICAL DATUM:** _____ **ESTIMATED GROUND SURFACE ELEV. (FT):** _____

**LOCATION:** Former Emerson St. Landfill

**BORING**

# LAB-SBW-17



| Elev. (ft) | Depth (ft) | Casing Pen. (bpf) or Core Rate (mpf) | SAMPLE INFORMATION: Sample No. | Type | Depth (ft) | Pen./ Rec. (in) | Blows Count or RQD | Field Test Data | GRAPHIC LOG | Sample Description & Classification | $H_20$ Depth | WELL CONSTRUCTION DETAILS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 4 | | 25 to 30 | 60/22 | | OVM=18.5 | | Waste, as above (glass, wood fragments, few cinders.) Dry to moist.<br><br>Sampler refusal at 30.5' bgs. Little weathered shale bedrock in sampler. Advance 4-1/4" HSA to 33' bgs to install 4" permanent casing. | | 4" permanent casing |
| | 30 | | 5 | | 30 to 30.5 | 6/2 | | OVM=0 | | **BEDROCK**<br><br>Lockport Fm./Penfield Member- Hard, grey to dark grey shaley dolomite/ dolomitic shale. Moderately to Intensely fractured, with frequent mechanical breaks along shale bedding plane partings, little vertical fracturing. Few small (<10mm dia.) vugs. Slightly weathered throughout. | | |
| | | | R1 | | 33 to 43 | 120/107 | 11 | OVM=0 | | | | |
| | 35 | | | | | | | | | | | Open HQ bedrock corehole 33.0-53.0' bgs. |
| | 40 | | | | | | | | | Moderately to intensely fractured throughout with little weathering present. | | |
| | | | R2 | | 43 to 53 | 120/86 | 11 | OVM=0 | | | | |
| | 45 | | | | | | | | | | | |
| | 50 | | | | | | | | | | | |
| | | | | | | | | | | End of Boring at 53 feet | | |
| | 55 | | | | | | | | | | | |

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

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GEOTECHNICAL BORING LOG 02 2017 MW LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 12/17/20

## Boring Location

**NORTHING:** _____ **EASTING:** _____ **STATION:** _____ **OFFSET:** _____

**HORIZONTAL DATUM:** _____ **STATION CENTERLINE:** _____

**VERTICAL DATUM:** _____ **ESTIMATED GROUND SURFACE ELEV. (FT):** _____

**LOCATION:** Former Emerson St. Landfill

**BORING**

# LAB-SBW-18



## Drilling Information

DATE START / END: 9/1/2020 - 9/3/2020 — TOTAL DEPTH (FT): 50.0

CONTRACTOR: Labella Associates — DRILLER: Chris Stone — LOGGED BY (Person): M. Cummings

EQUIPMENT: CME 55 — BORING METHOD: Hollow Stem Auger

AUGER ID/OD: 4.25 in / 10 in — CASING ID/OD: 4 in / N/A — CORE INFO: Type: HQ

HAMMER TYPE: Automatic — HAMMER WEIGHT (lbs): 140 — HAMMER DROP (inch): 30

WATER LEVEL DEPTHS (ft): _____

GENERAL NOTES: _____

**ABBREVIATIONS:**

| | | | | | |
|---|---|---|---|---|---|
| ID = Inside Diameter | bpf = Blows per Foot | U = Undisturbed Tube Sample | WOR = Weight of Rods | $Q_v$ = Pocket Penetrometer Strength |
| OD = Outside Diameter | mpf = Minute per Foot | C = Rock Core | WOH = Weight of Hammer | $S_v$ = Pocket Torvane Shear Strength |
| Pen. = Penetration Length | S = Split Spoon | V = Field Vane Shear | RQD = Rock Quality Designation | $F_v$ = Field Vane Shear Strength |
| Rec. = Recovery Length | DP = Direct Push Sample | SC = Sonic Core | OVM = Organic Vapor Meter | NA, NM = Not Applicable, Not Measured |

| Elev. (ft) | Depth (ft) | Casing Pen. (bpf) or Core Rate (mpf) | SAMPLE INFORMATION: Sample No. | Type | Depth (ft) | Pen./ Rec. (in) | Blows Count or RQD | Field Test Data | GRAPHIC LOG | Sample Description & Classification | $H_20$ Depth | WELL CONSTRUCTION DETAILS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | 0 to 5 | 60/32 | | OVM=0 | | **FILL** Light brown fine sand with silt and little fine angular to subangular gravel, firm, dry to moist. | | 4" permanent casing |
| | 5 | | 2 | | 5 to 10 | 60/20 | | OVM=0.2 | | As above, with trace metal fragments, moist throughout. | | |
| | 10 | | 3 | | 10 to 15 | 60/38 | | OVM=21.7 | | **WASTE** Dark brown to black fine sand and silt, plastic pieces, glass, black cinders. Dry to moist. | | |
| | 15 | | 4 | | 15 to 20 | 60/20 | | OVM=41.6 | | | | |
| | 20 | | 5 | | 20 to 25 | 60/21 | | OVM=47.8 | | As above, abundant black cinders and glass fragments, light petroleum-like odor, dry to moist. | | |

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

**CLIENT:** City of Rochester

**PROJECT NAME:** Fomer Emerson Street Landfill

**CITY/STATE:** Rochester, New York

**GEI PROJECT NUMBER:** 1331890

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Amherst, NY 14228
(716) 204-7154

GEOTECHNICAL BORING LOG 02 2017 MW LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 12/17/20

**Boring Location**

**NORTHING:** _____ **EASTING:** _____ **STATION:** _____ **OFFSET:** _____

**HORIZONTAL DATUM:** _____ **STATION CENTERLINE:** _____

**VERTICAL DATUM:** _____ **ESTIMATED GROUND SURFACE ELEV. (FT):** _____

**LOCATION:** Former Emerson St. Landfill

**BORING**

# LAB-SBW-18



| Elev. (ft) | Depth (ft) | Casing Pen. (bpf) or Core Rate (mpf) | SAMPLE INFORMATION: Sample No. | Type | Depth (ft) | Pen./ Rec. (in) | Blows Count or RQD | Field Test Data | GRAPHIC LOG | Sample Description & Classification | $H_2O$ Depth | WELL CONSTRUCTION DETAILS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6 | | 25 to 28 | 36/9 | | OVM=NA | | Grinding hard at 25' bgs. Poor recovery 25-28' bgs.<br>Sampler refusal at 28.0' bgs. Advance 4-1/4" HSA to 30' bgs to install 4" peramanent steel casing. | | 4" permanent casing |
| | 30 | | R1 | | 30 to 40 | 120/108 | 0 | OVM=0 | | **BEDROCK**<br>Lockport Fm./Penfield Member- Hard, grey to dark grey shaley dolomite/ dolomitic shale. Moderately to Intensely fractured, with frequent mechanical breaks along shale bedding plane partings, little vertical fracturing. Few small (<10mm dia.) vugs. Slightly weathered throughout. | | Open HQ bedrock corehole 30.0-50.0' bgs. |
| | 40 | | R2 | | 40 to 50 | 120/117 | 42 | OVM=0 | | Moderately fractured below 40'bgs with frequent mechanical breaks along bedding planes. Slightly weathered throughout. | | |
| | 50 | | | | | | | | | End of Boring at 50 feet | | |
| | 55 | | | | | | | | | | | |

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

**CLIENT:** City of Rochester
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GEI Consultants
**GEI Consultants, Inc. PC**
100 Sylvan Parkway Suite 400
Amherst, NY 14228
(716) 204-7154

## Boring Location

**NORTHING:** _____ **EASTING:** _____ **STATION:** _____ **OFFSET:** _____
**HORIZONTAL DATUM:** _____ **STATION CENTERLINE:** _____
**VERTICAL DATUM:** _____ **ESTIMATED GROUND SURFACE ELEV. (FT):** _____
**LOCATION:** Former Emerson St. Landfill

**BORING**

# LAB-SBW-19



## Drilling Information

DATE START / END: 8/31/2020 - 9/3/2020
TOTAL DEPTH (FT): 43.2
CONTRACTOR: Labella Associates
DRILLER: Chris Stone
LOGGED BY (Person): M. Cummings
EQUIPMENT: CME 55
BORING METHOD: Hollow Stem Auger
AUGER ID/OD: 4.25 in / 10 in
CASING ID/OD: 4 in / N/A
CORE INFO: Type: HQ
HAMMER TYPE: Automatic
HAMMER WEIGHT (lbs): 140
HAMMER DROP (inch): 30
WATER LEVEL DEPTHS (ft):
GENERAL NOTES:

**ABBREVIATIONS:**
ID = Inside Diameter; OD = Outside Diameter; Pen. = Penetration Length; Rec. = Recovery Length
bpf = Blows per Foot; mpf = Minute per Foot; S = Split Spoon; DP = Direct Push Sample
U = Undisturbed Tube Sample; C = Rock Core; V = Field Vane Shear; SC = Sonic Core
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; OVM = Organic Vapor Meter
$Q_v$ = Pocket Penetrometer Strength; $S_v$ = Pocket Torvane Shear Strength; $F_v$ = Field Vane Shear Strength; NA, NM = Not Applicable, Not Measured

| Elev. (ft) | Depth (ft) | Casing Pen. (bpf) or Core Rate (mpf) | SAMPLE INFORMATION: Sample No. | Type | Depth (ft) | Pen./ Rec. (in) | Blows Count or RQD | Field Test Data | GRAPHIC LOG | Sample Description & Classification | $H_20$ Depth | WELL CONSTRUCTION DETAILS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | 0 to 5 | 60/30 | | OVM=0 | | **SOIL/FILL** Light brown fine sand with silt, trace fine rounded gravel, loose, dry | | 4" permanent casing |
| | 5 | | 2 | | 5 to 7 | 24/17 | | OVM=0 | | | | |
| | | | 3 | | 7 to 9 | 24/8 | | OVM=0.1 | | As above, frequent grinding on cobbles. | | |
| | | | 4 | | 9 to 11 | 24/8 | | OVM=2.5 | | **WASTE** Dark brown to black fine sand with silt, plastic pieces, glass, moist, slight petroleum-like odor. | | |
| | 10 | | 5 | | 11 to 13 | 24/6 | | OVM=18.7 | | | | |
| | | | 6 | | 13 to 15 | 24/24 | | OVM=165 | | Black cinders with glass fragments, slight petroleum-like odor. | | |
| | 15 | | 7 | | 15 to 17 | 24/14 | | OVM=148 | | | | |
| | | | 8 | | 17 to 19 | 24/2 | | OVM=NA | | Poor recovery, as above in sampling shoe. | | |
| | | | 9 | | 19 to 21 | 24/0 | | OVM=NA | | Sampler refusal at 20.7' bgs. Advance 3-7/8" roller bit and 4-1/4" HSA from 20.7- 21.7'. Bedrock confirmed at 21.7' bgs. Advance 4-1/4" HSA to 23.2' bgs to install 4" permanent casing. | | 4" permanent casing |
| | 20 | | | | | | | | | | | |
| | | | R1 | | 23.2 to 33.2 | 120/86 | 0 | OVM=0 | | **BEDROCK** Lockport Fm./Penfield Member- Hard, grey to dark grey shaley dolomite/ dolomitic shale. Intensely fractured throughout, with frequent mechanical breaks along shale bedding plane | | |

GEOTECHNICAL BORING LOG 02 2017 MW LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 12/17/20

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

**CLIENT:** City of Rochester
**PROJECT NAME:** Fomer Emerson Street Landfill
**CITY/STATE:** Rochester, New York
**GEI PROJECT NUMBER:** 1331890

**GEI Consultants, Inc. PC**
100 Sylvan Parkway Suite 400
Amherst, NY 14228
(716) 204-7154

**Boring Location**

**NORTHING:** _____ **EASTING:** _____ **STATION:** _____ **OFFSET:** _____

**HORIZONTAL DATUM:** _____ **STATION CENTERLINE:** _____

**VERTICAL DATUM:** _____ **ESTIMATED GROUND SURFACE ELEV. (FT):** _____

**LOCATION:** Former Emerson St. Landfill

**BORING**

# LAB-SBW-19



| Elev. (ft) | Depth (ft) | Casing Pen. (bpf) or Core Rate (mpf) | SAMPLE INFORMATION: Sample No. | Type | Depth (ft) | Pen./ Rec. (in) | Blows Count or RQD | Field Test Data | GRAPHIC LOG | Sample Description & Classification | $H_20$ Depth | WELL CONSTRUCTION DETAILS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | partings, no vertical fracturing observed. Few small (<10mm dia.) vugs. Slightly weathered throughout. | | |
| | 30 | | | | | | | | | | | ← Open HQ bedrock corehole 23.2-43.2' bgs. |
| | | | R2 | | 33.2 to 40 | 82/40 | 0 | OVM=0 | | As above, intensely fractured throughout with slight weathering. | | |
| | 35 | | | | | | | | | | | |
| | | | | | | | | | | Few small 10mm diameter vugs exhibiting partial calcite infilling. | | |
| | 40 | | | | | | | | | | | |
| | | | | | | | | | | End of Boring at 43.2 feet | | |
| | 45 | | | | | | | | | | | |
| | 50 | | | | | | | | | | | |
| | 55 | | | | | | | | | | | |

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

**CLIENT:** City of Rochester

**PROJECT NAME:** Fomer Emerson Street Landfill

**CITY/STATE:** Rochester, New York

**GEI PROJECT NUMBER:** 1331890

**GEI Consultants, Inc. PC**
100 Sylvan Parkway Suite 400
Amherst, NY 14228
(716) 204-7154

GEOTECHNICAL BORING LOG 02 2017 MW LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 12/17/20

## Boring Location

**NORTHING:** _____ **EASTING:** _____ **STATION:** _____ **OFFSET:** _____
**HORIZONTAL DATUM:** _____ **STATION CENTERLINE:** _____
**VERTICAL DATUM:** _____ **ESTIMATED GROUND SURFACE ELEV. (FT):** _____
**LOCATION:** Former Emerson St. Landfill

**BORING**

# LAB-SBW-20



## Drilling Information

DATE START / END: 12/7/2020 - 12/8/2020
TOTAL DEPTH (FT): 48.6
CONTRACTOR: Labella Associates
DRILLER: Chris Stone
LOGGED BY (Person): K. Truong / M. Cummings
EQUIPMENT: CME 55
BORING METHOD: Hollow Stem Auger
AUGER ID/OD: 4.25 in / 10 in
CASING ID/OD: 4 in / N/A
CORE INFO: Type: HQ
HAMMER TYPE: Automatic
HAMMER WEIGHT (lbs): 140
HAMMER DROP (inch): 30
WATER LEVEL DEPTHS (ft):
GENERAL NOTES:

**ABBREVIATIONS:**
ID = Inside Diameter; OD = Outside Diameter; Pen. = Penetration Length; Rec. = Recovery Length
bpf = Blows per Foot; mpf = Minute per Foot; S = Split Spoon; DP = Direct Push Sample
U = Undisturbed Tube Sample; C = Rock Core; V = Field Vane Shear; SC = Sonic Core
WOR = Weight of Rods; WOH = Weight of Hammer; RQD = Rock Quality Designation; OVM = Organic Vapor Meter
$Q_v$ = Pocket Penetrometer Strength; $S_v$ = Pocket Torvane Shear Strength; $F_v$ = Field Vane Shear Strength; NA, NM = Not Applicable, Not Measured

| Elev. (ft) | Depth (ft) | Casing Pen. (bpf) or Core Rate (mpf) | Sample No. | Type | Depth (ft) | Pen./ Rec. (in) | Blows Count or RQD | Field Test Data | GRAPHIC LOG | Sample Description & Classification | $H_20$ Depth | WELL CONSTRUCTION DETAILS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | 0 to 2 | 24/6 | 2-3-5-7 | OVM=0.0<br>OVM=3.7 | | **SOIL/FILL** Grey to dark brown crushed angular limestone gravel, sandy silt, some organics. | | |
| | | | 2 | | 2 to 4 | 24/6 | 11-32-25-15 | OVM=0.1<br>OVM=0.0 | | | | |
| | 5 | | 3 | | 4 to 6 | 24/11 | 13-8-5-5 | OVM=0.0<br>OVM=0.0 | | | | 4" permanent casing |
| | | | 4 | | 6 to 8 | 24/15 | 7-11-10-10 | OVM=0.0<br>OVM=0.0 | | As above, fine to coarse gravel, light brown sandy silt with little grey clay. | | |
| | | | 5 | | 8 to 10 | 24/12 | 4-7-5-4 | OVM=2.0<br>OVM=0.0 | | | | |
| | 10 | | 6 | | 10 to 12 | 24/11 | 8-4-2-2 | OVM=0.0 | | | | |
| | | | 7 | | 12 to 14 | 24/11 | 5-7-11-14 | OVM=0.0 | | **WASTE** Black cinders, ash like material, gravel, glass. | | |
| | | | 8 | | 14 to 16 | 24/15 | 5-4-2-2 | OVM=0.0 | | | | |
| | 15 | | 9 | | 16 to 18 | 24/13 | 10-4-3-3 | OVM=4.7<br>OVM=4.1 | | **WASTE** as above. | | |
| | | | 10 | | 18 to 20 | 24/7 | 4-5-4-5 | OVM=0.0<br>OVM=0.0 | | | | |
| | 20 | | 11 | | 20 to 22 | 24/11 | 10-8-8-12 | OVM=3.0<br>OVM=3.2 | | **WASTE** Black-grey sandy silt, reworked with coarse angular gravel fill mixed with ash like material, glass. | | 4" permanent casing |
| | | | 12 | | 22 to 24 | 24/7 | 4-5-4-5 | OVM=0.3<br>OVM=0.0 | | | | |
| | | | 13 | | 24 to | 24/3 | 10-5-8-3 | OVM=2.0 | | | | |

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

**CLIENT:** City of Rochester
**PROJECT NAME:** Fomer Emerson Street Landfill
**CITY/STATE:** Rochester, New York
**GEI PROJECT NUMBER:** 1331890

**GEI Consultants, Inc. PC**
100 Sylvan Parkway Suite 400
Amherst, NY 14228
(716) 204-7154

**Boring Location**

**NORTHING:** _____ **EASTING:** _____ **STATION:** _____ **OFFSET:** _____

**HORIZONTAL DATUM:** _____ **STATION CENTERLINE:** _____

**VERTICAL DATUM:** _____ **ESTIMATED GROUND SURFACE ELEV. (FT):** _____

**LOCATION:** Former Emerson St. Landfill

**BORING**

# LAB-SBW-20



| Elev. (ft) | Depth (ft) | Casing Pen. (bpf) or Core Rate (mpf) | SAMPLE INFORMATION: Sample No. | Type | Depth (ft) | Pen./ Rec. (in) | Blows Count or RQD | Field Test Data | GRAPHIC LOG | Sample Description & Classification | $H_20$ Depth | WELL CONSTRUCTION DETAILS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 26 | | | OVM=0.1 | | Sampler refusal at 26.8' bgs. Advance 3-7/8" roller bit and 4-1/4" HSA from 26.8 to 28.0' bgs to install 4" permanent casing. | | |
| | | | 14 | | 26 to 28 | 24/0 | 10-50/3 | OVM=NA | | | | |
| | | | R1 | | 28 to 38 | 120/87 | 0 | OVM=0 | | **BEDROCK** Lockport Fm./Penfield Member- Hard, light grey to grey shaley dolomite/ dolomitic shale. Intensely fractured throughout, with frequent mechanical breaks along shale bedding plane partings, no vertical fracturing observed. Few small (<10mm dia.) vugs. Slightly weathered throughout. | | Open HQ bedrock corehole 28.0-48.6 bgs. |
| | 30 | | | | | | | | | | | |
| | 35 | | | | | | | | | | | |
| | | | R2 | | 38 to 38.6 | 7/1 | 0 | OVM=0 | | | | |
| | | | R3 | | 38.6 to 48.6 | 120/120 | 8 | OVM=0 | | | | |
| | 40 | | | | | | | | | | | |
| | 45 | | | | | | | | | | | |
| | | | | | | | | | | End of Boring at 48.6 feet | | |
| | 50 | | | | | | | | | | | |
| | 55 | | | | | | | | | | | |

GEOTECHNICAL BORING LOG 02 2017 MW LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 1/6/21

Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

**CLIENT:** City of Rochester

**PROJECT NAME:** Fomer Emerson Street Landfill

**CITY/STATE:** Rochester, New York

**GEI PROJECT NUMBER:** 1331890

GEI Consultants

**GEI Consultants, Inc. PC**
100 Sylvan Parkway Suite 400
Amherst, NY 14228
(716) 204-7154

# Design Phase Investigation
# Well Development Logs

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

**WELL I.D.:** LAB-SBW-17

Project Name: FESL (Former Emerson Street Landfill)
Location: 1700 Emerson Street, Rochester New York
Project No.: 210173
Sampled By: K. Truong
Date: 9/8/2020
Weather:

## WELL DEVELOPMENT INFORMATION

Well Diameter: 2”
Depth of Well:
Measuring Point: Top of Casing
Pump Type: Grundfos
Static Water Level:
Length of Well Screen:
Depth to Top of Pump:
Tubing Type: LDPE

## FIELD PARAMETER MEASUREMENT

| Time | Pump Rate (mL/min) | Gallons Purged | pH +/- 0.1 | Temp °C + 10% | Conductivity (mS/cm) +/- 3% | Turbidity (NTU) + 10% | Dissolved $O_2$ (mg/L) + 10% | Redox (mV) +/- 10 mV | Depth to Water Ft. BGS | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1240 | | 20 | 8.25 | 13.9 | 3.772 | 1784 | 5.27 | -7.8 | 40.55 | |
| 1250 | | 20 | 7.75 | 13.6 | 3.734 | 409.41 | 4.35 | -25.1 | 40.55 | |
| 1300 | | 20 | 7.78 | 13.2 | 3.718 | 230.41 | 5.68 | -30.1 | 40.55 | |
| 1310 | | 20 | 7.49 | 12.7 | 3.659 | 175.32 | 4.55 | -46.6 | 40.55 | |
| 1320 | | 20 | 7.48 | 13.8 | 3.616 | 70.00 | 5.26 | -38.4 | 40.55 | |
| 1330 | | 20 | 7.10 | 12.8 | 3.604 | 27.07 | 3.29 | -59.4 | 40.55 | |
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Total 120 Gallons Purged

Purge Time Start: 1240 Purge Time End: 1330 Final Static Water Level: 40.55

## OBSERVATIONS

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

**WELL I.D.:** LAB-SBW-18

Project Name: FESL (Former Emerson Street Landfill)
Location: 1700 Emerson Street, Rochester New York
Project No.: 210173
Sampled By: K. Truong
Date: 9/8/2020
Weather:

## WELL DEVELOPMENT INFORMATION

Well Diameter: 2”
Depth of Well:
Measuring Point: Top of Casing
Pump Type: Grundfos
Static Water Level:
Length of Well Screen:
Depth to Top of Pump:
Tubing Type: LDPE

## FIELD PARAMETER MEASUREMENT

| Time | Pump Rate (mL/min) | Gallons Purged | pH +/- 0.1 | Temp °C + 10% | Conductivity (mS/cm) +/- 3% | Turbidity (NTU) + 10% | Dissolved $O_2$ (mg/L) + 10% | Redox (mV) +/- 10 mV | Depth to Water Ft. BGS | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1045 | | 5 | 6.73 | 13.2 | 3.08 | -- | -- | 74.3 | 36.75 | |
| 1105 | | 15 | 7.2 | 12.8 | 3.29 | 11 | 4.08 | -1.9 | | |
| 1110 | | 15 | 7.30 | 12.7 | 3.305 | 7.59 | 3.38 | -2.8 | | |
| 1115 | | 15 | 785 | 12.7 | 3.33 | 3.04 | 3.37 | -2.4 | 36.85 | |
| 1120 | | 15 | 7.20 | 12.8 | 3.371 | 5.95 | 3.23 | -19.8 | 36.9 | |
| 1125 | | 15 | 7.20 | 12.9 | 3.375 | 5.31 | 3.11 | -25.0 | | |
| 1130 | | 15 | 7.21 | 12.7 | 3.343 | 24.07 | 3.44 | -41.1 | 36.96 | |
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Total 95 Gallons Purged

Purge Time Start: 1045 Purge Time End: 1130 Final Static Water Level: 36.96

## OBSERVATIONS

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

**WELL I.D.:** LAB-SBW-19

Project Name: FESL (Former Emerson Street Landfill)
Location: 1700 Emerson Street, Rochester New York
Project No.: 210173
Sampled By: K. Truong
Date: 9/8/2020
Weather:

## WELL DEVELOPMENT INFORMATION

Well Diameter: 2”
Depth of Well:
Measuring Point: Top of Casing
Pump Type: Grundfos

Static Water Level: 32.18
Length of Well Screen:
Depth to Top of Pump:
Tubing Type:

## FIELD PARAMETER MEASUREMENT

| Time | Pump Rate (mL/min) | Gallons Purged | pH +/- 0.1 | Temp °C + 10% | Conductivity (mS/cm) +/- 3% | Turbidity (NTU) + 10% | Dissolved $O_2$ (mg/L) + 10% | Redox (mV) +/- 10 mV | Depth to Water Ft. BGS | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 0825 | | 5 | 7.94 | 13.3 | 3.699 | 161.65 | 4.43 | 36.7 | 37.18 | |
| 0835 | | | 7.77 | 13.3 | 3.536 | 51.50 | 5.47 | -4.6 | | |
| 0846 | | | 7.63 | 13.5 | 3.587 | 6.72 | 5.02 | -12.8 | 42.48 | |
| 0924 | | | 7.48 | 13.1 | 3.483 | 3.00 | 3.18 | -61.9 | 42.65 | |
| 0935 | | 75 | 7.47 | 13.2 | 3.485 | 5.85 | 4.09 | -90.5 | 47.68 | |
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Total 75 Gallons Purged

Purge Time Start: 0825 Purge Time End: 0935 Final Static Water Level: 47.68

## OBSERVATIONS

# Design Phase Investigation
# Groundwater Sampling Logs

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

**WELL I.D.:** LAB-SBW-15

Project Name: FESL (Former Emerson Street Landfill)
Location: 1700 Emerson Street, Rochester New York
Project No.: 210173
Sampled By: K. Truong
Date: 12/7/2020
Weather: 34°F/Snowy

## WELL SAMPLING INFORMATION

| | | | |
|---|---|---|---|
| Well Diameter: | 2” | Static Water Level: | 27.2 |
| Depth of Well: | | Length of Well Screen: | |
| Measuring Point: | Top of Casing | Depth to Top of Pump: | 35’ |
| Pump Type: | Whale Pump | Tubing Type: | LDPE |

## FIELD PARAMETER MEASUREMENT

| Time | Pump Rate (mL/min) | Gallons Purged | pH +/- 0.1 | Temp °C + 10% | Conductivity (mS/cm) +/- 3% | Turbidity (NTU) + 10% | Dissolved $O_2$ (mg/L) + 10% | Redox (mV) +/- 10 mV | Depth to Water Ft. BGS | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1515 | | | 7.05 | 10.8 | 3.101 | 11.66 | 1.22 | -104.2 | 27.2 | |
| 1520 | | | 6.84 | 11.4 | 3.389 | 4.92 | 0.00 | -117.0 | 27.2 | |
| 1525 | | | 6.87 | 11.5 | 4.627 | 3.54 | -0.11 | -115.7 | 27.3 | |
| 1530 | | | 6.91 | 11.5 | 4.802 | 2.33 | -0.16 | -123.8 | 27.3 | |
| 1535 | | | 6.92 | 11.5 | 4.838 | 1.94 | -0.17 | -124.9 | 27.3 | |
| 1540 | | | 6.92 | 11.5 | 4.859 | 1.97 | -0.18 | -127.0 | 27.3 | |
| 1545 | | | 6.92 | 11.5 | 4.869 | 1.78 | -0.19 | -128.6 | 27.3 | |
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Total _____ Gallons Purged

Purge Time Start: 1515 Purge Time End: 1545 Final Static Water Level: 27.3

## OBSERVATIONS

Took readings before coring LAB-SBW-20

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

**WELL I.D.:** LAB-SBW-16

Project Name: FESL (Former Emerson Street Landfill)
Location: 1700 Emerson Street, Rochester New York
Project No.: 210173
Sampled By: K. Truong
Date: 12/7/2020
Weather: 34°F/Snowy

## WELL SAMPLING INFORMATION

Well Diameter: 2”
Depth of Well:
Measuring Point: Top of Casing
Pump Type: Whale Pump
Static Water Level: 31.72’
Length of Well Screen:
Depth to Top of Pump:
Tubing Type: LDPE

## FIELD PARAMETER MEASUREMENT

| Time | Pump Rate (mL/min) | Gallons Purged | pH +/- 0.1 | Temp °C + 10% | Conductivity (mS/cm) +/- 3% | Turbidity (NTU) + 10% | Dissolved $O_2$ (mg/L) + 10% | Redox (mV) +/- 10 mV | Depth to Water Ft. BGS | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1429 | | | 6.74 | 11.6 | 4.393 | 6.44 | 0.83 | -77.9 | 31.72 | |
| 1434 | | | 6.78 | 11.8 | 4.700 | 2.43 | 0.06 | -102.7 | 20.8 | |
| 1439 | | | 6.76 | 11.8 | 4.781 | 2.55 | -0.06 | -105.6 | 31.0 | |
| 1444 | | | 6.74 | 11.8 | 4.822 | 2.49 | -0.09 | -105.3 | 31.0 | |
| 1449 | | | 6.74 | 11.8 | 4.832 | 2.61 | -0.11 | -107.7 | 31.0 | |
| 1453 | | | 6.74 | 11.8 | 4.844 | 2.48 | -0.13 | -108.7 | 31.0 | |
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Total _____ Gallons Purged

Purge Time Start: 1429
Purge Time End: 1453
Final Static Water Level: 31.0

## OBSERVATIONS

Before installing well LAB-SBW-20

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

**WELL I.D.:** LAB-SBW-07

Project Name: FESL (Former Emerson Street Landfill)
Location: 1700 Emerson Street, Rochester New York
Project No.: 210173
Sampled By: K. Truong
Date: 12/9/2020
Weather: 34°F/Snowy

## WELL SAMPLING INFORMATION

| | | | |
|---|---|---|---|
| Well Diameter: | 2” | Static Water Level: | 29.7’ |
| Depth of Well: | 39.7’ | Length of Well Screen: | |
| Measuring Point: | Top of Casing | Depth to Top of Pump: | 35’ |
| Pump Type: | Whale Pump | Tubing Type: | LDPE |

## FIELD PARAMETER MEASUREMENT

| Time | Pump Rate (mL/min) | Gallons Purged | pH +/- 0.1 | Temp °C + 10% | Conductivity (mS/cm) +/- 3% | Turbidity (NTU) + 10% | Dissolved $O_2$ (mg/L) + 10% | Redox (mV) +/- 10 mV | Depth to Water Ft. BGS | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 0845 | | | 6.85 | 10.7 | 5.334 | 9.29 | 2.15 | -105.8 | | |
| 0850 | | | 6.67 | 11.5 | 5.297 | 1.97 | -0.03 | -134.9 | | |
| 0855 | | | 6.67 | 11.6 | 5.244 | 2.05 | -0.11 | -141.2 | | |
| 0900 | | | 6.67 | 11.6 | 5.183 | 1.83 | -0.15 | -148.9 | | |
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Total _____ Gallons Purged

Purge Time Start: 0845 Purge Time End: 0900 Final Static Water Level: 29.7

## OBSERVATIONS

Before developing LAB-SBW-20

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

**WELL I.D.:** LAB-SBW-15

Project Name: FESL (Former Emerson Street Landfill)
Location: 1700 Emerson Street, Rochester New York
Project No.: 210173
Sampled By: K. Truong
Date: 12/9/2020
Weather: 34°F/Snowy

## WELL SAMPLING INFORMATION

| | | | |
|---|---|---|---|
| Well Diameter: | 2” | Static Water Level: | 27.4’ |
| Depth of Well: | | Length of Well Screen: | |
| Measuring Point: | Top of casing | Depth to Top of Pump: | |
| Pump Type: | Whale pump | Tubing Type: | LDPE |

## FIELD PARAMETER MEASUREMENT

| Time | Pump Rate (mL/min) | Gallons Purged | pH +/- 0.1 | Temp °C + 10% | Conductivity (mS/cm) +/- 3% | Turbidity (NTU) + 10% | Dissolved $O_2$ (mg/L) + 10% | Redox (mV) +/- 10 mV | Depth to Water Ft. BGS | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1100 | | | 6.96 | 11.0 | 4.826 | 0.29 | 0.29 | -127.1 | 27.4 | |
| 1105 | | | 6.95 | 11.1 | 4.910 | -0.09 | -0.09 | -149.7 | 27.4 | |
| 1110 | | | 6.95 | 11.1 | 4.926 | -0.14 | -0.14 | -152.4 | 27.4 | |
| 1115 | | | 6.94 | 11.1 | 4.936 | -0.17 | -0.17 | -155.0 | 27.4 | |
| 1120 | | | 6.94 | 11.2 | 4.941 | -0.20 | -0.20 | -157.7 | 27.4 | |
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Total _____ Gallons Purged

Purge Time Start: 1100 Purge Time End: 1120 Final Static Water Level: 27.4

## OBSERVATIONS

Before development LAB-SBW-20

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

**WELL I.D.:** LAB-SBW-16

Project Name: FESL (Former Emerson Street Landfill)
Location: 1700 Emerson Street, Rochester New York
Project No.: 210173
Sampled By: K. Truong
Date: 12/9/2020
Weather: 34°F/Snowy

## WELL SAMPLING INFORMATION

Well Diameter: 2''
Depth of Well:
Measuring Point: Top of Casing
Pump Type: Whale Pump
Static Water Level: 31.2
Length of Well Screen:
Depth to Top of Pump:
Tubing Type: LDPE

## FIELD PARAMETER MEASUREMENT

| Time | Pump Rate (mL/min) | Gallons Purged | pH +/- 0.1 | Temp °C + 10% | Conductivity (mS/cm) +/- 3% | Turbidity (NTU) + 10% | Dissolved $O_2$ (mg/L) + 10% | Redox (mV) +/- 10 mV | Depth to Water Ft. BGS | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1000 | | | 6.80 | 11.6 | 4.997 | 3.85 | 0.26 | -128.9 | 31.2 | |
| 1005 | | | 6.75 | 11.7 | 4.964 | 2.00 | -0.05 | -138.3 | 31.2 | |
| 1010 | | | 6.74 | 11.7 | 4.963 | 1.70 | -0.13 | -141.4 | 31.2 | |
| 1015 | | | 6.74 | 11.7 | 4.953 | 1.60 | -0.17 | -144.7 | 31.2 | |
| 1020 | | | 6.75 | 11.7 | 4.943 | 1.45 | -0.19 | -147.8 | 31.2 | |
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Total _____ Gallons Purged

Purge Time Start: 1000 Purge Time End: 1020 Final Static Water Level: 31.2

## OBSERVATIONS

Before development of LAB-SBW-20

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

**WELL I.D.:** LAB-SBW-20

Project Name: FESL (Former Emerson Street Landfill)
Location: 1700 Emerson Street, Rochester New York
Project No.: 210173
Sampled By: K. Truong
Date: 12/9/2020
Weather: 35°F/Snow

## WELL SAMPLING INFORMATION

| | | | |
|---|---|---|---|
| Well Diameter: | 2” | Static Water Level: | 31.1 |
| Depth of Well: | 49.3 | Length of Well Screen: | |
| Measuring Point: | Top of casing | Depth to Top of Pump: | 40’ |
| Pump Type: | Grunfos Pump | Tubing Type: | LDPE |

## FIELD PARAMETER MEASUREMENT

| Time | Pump Rate (mL/min) | Gallons Purged | pH +/- 0.1 | Temp °C + 10% | Conductivity (mS/cm) +/- 3% | Turbidity (NTU) + 10% | Dissolved $O_2$ (mg/L) + 10% | Redox (mV) +/- 10 mV | Depth to Water Ft. BGS | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1238 | | | 7.12 | 12.6 | 4.886 | 205.00 | 2.81 | 3.1 | 31.1 | |
| 1243 | | | 6.98 | 12.9 | 4.873 | 90.07 | 2.24 | -9.0 | 31.1 | |
| 1248 | | | 6.97 | 13.3 | 4.861 | 80.00 | 2.03 | -7.7 | 31.1 | |
| 1253 | | | 6.95 | 13.3 | 4.857 | 55.92 | 1.90 | -4.9 | 31.1 | |
| 1258 | | | 6.95 | 13.3 | 4.852 | 79.00 | 1.95 | -1.6 | 31.1 | |
| 1303 | | | 6.94 | 13.5 | 4.864 | 62.16 | 1.90 | 1.4 | 31.1 | |
| 1308 | | | 6.94 | 13.5 | 4.857 | 48.92 | 1.87 | 5.3 | 31.1 | |
| 1313 | | | 6.93 | 13.4 | 4.860 | 46.57 | 1.79 | 8.4 | 31.1 | |
| 1318 | | | 6.93 | 13.8 | 4.866 | 54.00 | 1.73 | 11.5 | 31.1 | Increased pump rate |
| 1323 | | | 7.11 | 2.9 | 4.843 | 43.00 | 2.83 | 9.7 | 31.1 | |
| 1328 | | | 6.95 | 12.9 | 4.827 | 48.92 | 1.65 | 16.7 | 31.1 | |
| 1333 | | | 6.95 | 12.8 | 4.817 | 36.17 | 1.55 | 18.7 | 31.1 | |
| 1338 | | | 6.96 | 12.9 | 4.817 | 37.25 | 1.55 | 19.8 | 31.1 | |
| 1344 | | | 6.97 | 12.7 | 4.797 | 22.46 | 1.61 | 21.5 | 31.1 | |
| 1350 | | | 7.18 | 12.7 | 4.848 | 100.00 | 4.32 | 62.3 | 31.1 | |
| 13.55 | | | 6.96 | 12.8 | 4.812 | 29.19 | 1.77 | 38.5 | 31.1 | |

Total ~36 Gallons Purged

Purge Time Start: 1238 Purge Time End: 1355 Final Static Water Level: 31.1

## OBSERVATIONS

1 well volume: 11.88 gallons

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

**WELL I.D.:** LAB-SBW-07

Project Name: FESL (Former Emerson Street Landfill)
Location: 1700 Emerson Street, Rochester New York
Project No.: 210173
Sampled By: K. Truong
Date: 12/9/2020
Weather: 35°F/Snow

## WELL SAMPLING INFORMATION

| | | | |
|---|---|---|---|
| Well Diameter: | 2” | Static Water Level: | 29.7’ |
| Depth of Well: | 39.7’ | Length of Well Screen: | |
| Measuring Point: | Top of Casing | Depth to Top of Pump: | 35’ |
| Pump Type: | Whale Pump | Tubing Type: | LDPE |

## FIELD PARAMETER MEASUREMENT

| Time | Pump Rate (mL/min) | Gallons Purged | pH +/- 0.1 | Temp °C + 10% | Conductivity (mS/cm) +/- 3% | Turbidity (NTU) + 10% | Dissolved $O_2$ (mg/L) + 10% | Redox (mV) +/- 10 mV | Depth to Water Ft. BGS | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1517 | | | 6.78 | 11.5 | 5.265 | 1.91 | 0.37 | -150.1 | 29.7 | |
| 1523 | | | 6.72 | 11.6 | 5.260 | 1.85 | -0.09 | -172.8 | 29.7 | |
| 1527 | | | 6.71 | 11.6 | 5.121 | 1.84 | -0.18 | -182.0 | 29.7 | |
| 1533 | | | 6.71 | 11.6 | 5.178 | 1.57 | -0.20 | -185.5 | 29.7 | |
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Total _____ Gallons Purged

Purge Time Start: 1517 Purge Time End: 1533 Final Static Water Level: 29.7

## OBSERVATIONS

After developing LAB-SBW-20

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

**WELL I.D.:** LAB-SBW-16

Project Name: FESL (Former Emerson Street Landfill)
Location: 1700 Emerson Street, Rochester New York
Project No.: 210173
Sampled By: K. Truong
Date: 12/9/2020
Weather: 34°F/Snowy

## WELL SAMPLING INFORMATION

Well Diameter: 2''
Depth of Well:
Measuring Point: Top of Casing
Pump Type: Whale Pump
Static Water Level: 31.2
Length of Well Screen:
Depth to Top of Pump:
Tubing Type: LDPE

## FIELD PARAMETER MEASUREMENT

| Time | Pump Rate (mL/min) | Gallons Purged | pH +/- 0.1 | Temp °C + 10% | Conductivity (mS/cm) +/- 3% | Turbidity (NTU) + 10% | Dissolved $O_2$ (mg/L) + 10% | Redox (mV) +/- 10 mV | Depth to Water Ft. BGS | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1447 | | | 7.05 | 11.3 | 4.897 | 7.81 | 1.68 | -108.0 | 31.2 | |
| 1452 | | | 6.75 | 11.6 | 4.961 | 2.08 | -0.09 | -142.7 | 31.2 | |
| 1457 | | | 6.75 | 11.6 | 4.953 | 1.46 | -0.16 | -147.3 | 31.2 | |
| 1502 | | | 6.75 | 11.6 | 4.940 | 1.33 | -0.19 | -152.7 | 31.2 | |
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Total _____ Gallons Purged

Purge Time Start: 1447 Purge Time End: 1502 Final Static Water Level: 31.2

## OBSERVATIONS

After development of LAB-SBW-20

LaBella
Powered by partnership.

300 State Street
Rochester, New York 14614
Telephone: (585) 454-6110
Facsimile: (585) 454-3066

**WELL I.D.:** LAB-SBW-15

Project Name: FESL (Former Emerson Street Landfill)
Location: 1700 Emerson Street, Rochester New York
Project No.: 210173
Sampled By: K. Truong
Date: 12/9/2020
Weather: 34°F/Snowy

## WELL SAMPLING INFORMATION

| | | | |
|---|---|---|---|
| Well Diameter: | 2” | Static Water Level: | 27.54’ |
| Depth of Well: | | Length of Well Screen: | |
| Measuring Point: | Top of casing | Depth to Top of Pump: | |
| Pump Type: | Whale pump | Tubing Type: | LDPE |

## FIELD PARAMETER MEASUREMENT

| Time | Pump Rate (mL/min) | Gallons Purged | pH +/- 0.1 | Temp °C + 10% | Conductivity (mS/cm) +/- 3% | Turbidity (NTU) + 10% | Dissolved $O_2$ (mg/L) + 10% | Redox (mV) +/- 10 mV | Depth to Water Ft. BGS | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1420 | | | 7.24 | 11.0 | 4.890 | 2.41 | 0.49 | -105.2 | 27.54 | |
| 1425 | | | 6.95 | 11.1 | 4.94 | 1.65 | -0.07 | -128.9 | 27.54 | |
| 1430 | | | 6.94 | 11.1 | 4.916 | 1.75 | -0.16 | -140.4 | 27.54 | |
| 1435 | | | 6.95 | 11.2 | 4.932 | 1.61 | -0.19 | -147.5 | 27.54 | |
| | | | | | | | | | 27.54 | |
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Total _____ Gallons Purged

Purge Time Start: 1420 Purge Time End: 1435 Final Static Water Level: 27.54

## OBSERVATIONS

Before development LAB-SBW-20

# Design Phase Investigation
# Laboratory Reports

## Bedrock Matrix Samples

eurofins | Environment Testing America

# ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-136235-1
Client Project/Site: 1700 Emerson St.

For:
LaBella Associates DPC
300 State Street
Suite 201
Rochester, New York 14614

Attn: Ann Barber

Kris Brooks

*Authorized for release by:*
*10/16/2020 11:54:49 AM*

Kris Brooks, Project Manager II
(330)966-9790
Kris.Brooks@Eurofinset.com

# Table of Contents

# Definitions/Glossary

Client: LaBella Associates DPC
Project/Site: 1700 Emerson St.

Job ID: 240-136235-1

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| U | Indicates the analyte was analyzed for but not detected. |

### GC/MS VOA TICs

| Qualifier | Qualifier Description |
|---|---|
| J | Indicates an Estimated Value for TICs |
| N | This flag indicates the presumptive evidence of a compound. |
| T | Result is  a tentatively identified compound (TIC) and an estimated value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CFU | Colony Forming Unit |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MCL | EPA recommended "Maximum Contaminant Level" |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MPN | Most Probable Number |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| NEG | Negative / Absent |
| POS | Positive / Present |
| PQL | Practical Quantitation Limit |
| PRES | Presumptive |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

## Job ID: 240-136235-1

**Laboratory: Eurofins TestAmerica, Canton**

**Narrative**

# CASE NARRATIVE

## Client: LaBella Associates DPC

## Project: 1700 Emerson St.

## Report Number: 240-136235-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

**RECEIPT**

The samples were received on 9/9/2020 10:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.0º C.

**VOLATILE ORGANIC COMPOUNDS**

Samples LAB-SBW-17 (35.5-35.8) (240-136235-1), LAB-SBW-18 (31.8-32.2) (240-136235-2) and LAB-SBW-19 (22.0-22.4) (240-136235-3) were analyzed for volatile organic compounds in accordance with sw-846 mthod 8260C. The samples were leached on 09/11/2020, prepared on 09/15/2020 and analyzed on 10/13/2020.

The continuing calibration verification (CCV) analyzed in batch 240-455767 was outside the method criteria for the following analyte(s): Dichloro-difluoromethane and N-Propylbenzene. An MRL standard at or below the reporting limit (RL) was analyzed with the affected samplesLAB-SBW-17 (35.5-35.8) (240-136235-1), LAB-SBW-18 (31.8-32.2) (240-136235-2), LAB-SBW-19 (22.0-22.4) (240-136235-3), (CCVIS 240-455767/3), (LCS 240-451456/2-A) and (MB 240-451456/1-A) and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Samples LAB-SBW-17 (35.5-35.8) (240-136235-1), LAB-SBW-18 (31.8-32.2) (240-136235-2) and LAB-SBW-19 (22.0-22.4) (240-136235-3) were kept in contact with methanol for 4 weeks prior to analysis. The samples were shaken for 15 minutes on 9/16/2020, 9/24/2020, 9/30/2020, and 10/7/2020.

## Job ID: 240-136235-1 (Continued)

### Laboratory: Eurofins TestAmerica, Canton (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**MOISTURE**

Samples LAB-SBW-17 (35.5-35.8) (240-136235-1), LAB-SBW-18 (31.8-32.2) (240-136235-2) and LAB-SBW-19 (22.0-22.4) (240-136235-3) were analyzed for Moisture in accordance with Moisture. The samples were leached on 09/11/2020 and analyzed on 09/11/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Method Summary

Client: LaBella Associates DPC
Project/Site: 1700 Emerson St.

Job ID: 240-136235-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260C | Volatile Organic Compounds by GC/MS | SW846 | TAL CAN |
| Moisture | Percent Moisture | EPA | TAL CAN |
| 5030C | Purge and Trap | SW846 | TAL CAN |
| Part Size Red | Particle Size Reduction Preparation | None | TAL CAN |

**Protocol References:**

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

# Sample Summary

Client: LaBella Associates DPC
Project/Site: 1700 Emerson St.

Job ID: 240-136235-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---|---|---|---|---|---|
| 240-136235-1 | LAB-SBW-17 (35.5-35.8) | Solid | 09/01/20 12:00 | 09/09/20 10:30 | |
| 240-136235-2 | LAB-SBW-18 (31.8-32.2) | Solid | 09/03/20 14:30 | 09/09/20 10:30 | |
| 240-136235-3 | LAB-SBW-19 (22.0-22.4) | Solid | 09/04/20 15:00 | 09/09/20 10:30 | |

# Detection Summary

Client: LaBella Associates DPC
Project/Site: 1700 Emerson St.

Job ID: 240-136235-1

## Client Sample ID: LAB-SBW-17 (35.5-35.8) — Lab Sample ID: 240-136235-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 150 | J | 250 | 41 | ug/Kg | 1 | ☼ | 8260C | Total/NA |
| Trichloroethene | 320 | | 250 | 150 | ug/Kg | 1 | ☼ | 8260C | Total/NA |

## Client Sample ID: LAB-SBW-18 (31.8-32.2) — Lab Sample ID: 240-136235-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 150 | J | 260 | 49 | ug/Kg | 1 | ☼ | 8260C | Total/NA |
| Acetone | 680 | J | 1000 | 250 | ug/Kg | 1 | ☼ | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 71 | J | 260 | 41 | ug/Kg | 1 | ☼ | 8260C | Total/NA |
| Trichloroethene | 150 | J | 260 | 150 | ug/Kg | 1 | ☼ | 8260C | Total/NA |

## Client Sample ID: LAB-SBW-19 (22.0-22.4) — Lab Sample ID: 240-136235-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 280 | J | 1000 | 250 | ug/Kg | 1 | ☼ | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 410 | | 260 | 41 | ug/Kg | 1 | ☼ | 8260C | Total/NA |

This Detection Summary does not include radiochemical test results.

Client: LaBella Associates DPC
Project/Site: 1700 Emerson St.

Job ID: 240-136235-1

**Client Sample ID: LAB-SBW-17 (35.5-35.8)**
**Date Collected: 09/01/20 12:00**
**Date Received: 09/09/20 10:30**

**Lab Sample ID: 240-136235-1**
**Matrix: Solid**
**Percent Solids: 99.3**

**Method: 8260C - Volatile Organic Compounds by GC/MS**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 79 | U | 250 | 79 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,1,2,2-Tetrachloroethane | 150 | U | 250 | 150 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 68 | U | 250 | 68 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,1,2-Trichloroethane | 58 | U | 250 | 58 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,1-Dichloroethane | 49 | U | 250 | 49 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,1-Dichloroethene | 83 | U | 250 | 83 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,2,4-Trichlorobenzene | 130 | U | 250 | 130 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,2,4-Trimethylbenzene | 54 | U | 250 | 54 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,2-Dibromo-3-Chloropropane | 220 | U | 510 | 220 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,2-Dichlorobenzene | 120 | U | 250 | 120 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,2-Dichloroethane | 48 | U | 250 | 48 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,2-Dichloropropane | 38 | U | 250 | 38 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,3,5-Trimethylbenzene | 40 | U | 250 | 40 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,3-Dichlorobenzene | 47 | U | 250 | 47 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,4-Dichlorobenzene | 56 | U | 250 | 56 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 1,4-Dioxane | 2400 | U | 13000 | 2400 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 2-Butanone (MEK) | 160 | U | 1000 | 160 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 2-Hexanone | 270 | U | 1000 | 270 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| 4-Methyl-2-pentanone (MIBK) | 240 | U | 1000 | 240 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Acetone | 250 | U | 1000 | 250 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Benzene | 43 | U | 250 | 43 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Bromoform | 230 | U | 250 | 230 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Bromomethane | 170 | U | 250 | 170 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Carbon disulfide | 110 | U | 250 | 110 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Carbon tetrachloride | 100 | U | 250 | 100 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Chlorobenzene | 36 | U | 250 | 36 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Chlorodibromomethane | 120 | U | 250 | 120 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Chloroethane | 150 | U | 250 | 150 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Chloroform | 55 | U | 250 | 55 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Chloromethane | 67 | U | 250 | 67 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| **cis-1,2-Dichloroethene** | **150** | **J** | 250 | 41 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| cis-1,3-Dichloropropene | 130 | U | 250 | 130 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Cyclohexane | 170 | U | 510 | 170 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Dichlorobromomethane | 28 | U | 250 | 28 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Dichlorodifluoromethane | 54 | U | 250 | 54 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Ethylbenzene | 48 | U | 250 | 48 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Ethylene Dibromide | 80 | U | 250 | 80 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Isopropylbenzene | 39 | U | 250 | 39 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Methyl acetate | 170 | U | 1300 | 170 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Methyl tert-butyl ether | 38 | U | 250 | 38 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Methylcyclohexane | 67 | U | 510 | 67 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Methylene Chloride | 390 | U | 510 | 390 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Naphthalene | 120 | U | 250 | 120 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| n-Butylbenzene | 71 | U | 250 | 71 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| N-Propylbenzene | 28 | U | 250 | 28 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| p-Isopropyltoluene | 29 | U | 250 | 29 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| sec-Butylbenzene | 51 | U | 250 | 51 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Styrene | 53 | U | 250 | 53 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| tert-Butylbenzene | 51 | U | 250 | 51 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |

Client: LaBella Associates DPC
Project/Site: 1700 Emerson St.

Job ID: 240-136235-1

**Client Sample ID: LAB-SBW-17 (35.5-35.8)**
**Date Collected: 09/01/20 12:00**
**Date Received: 09/09/20 10:30**

**Lab Sample ID: 240-136235-1**
**Matrix: Solid**
**Percent Solids: 99.3**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | 98 | U | 250 | 98 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Toluene | 240 | U | 250 | 240 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| trans-1,2-Dichloroethene | 63 | U | 250 | 63 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| trans-1,3-Dichloropropene | 110 | U | 250 | 110 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| **Trichloroethene** | **320** | | 250 | 150 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Trichlorofluoromethane | 140 | U | 250 | 140 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Vinyl chloride | 120 | U | 250 | 120 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |
| Xylenes, Total | 92 | U | 510 | 92 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:03 | 1 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Octane* | *350* | *T J N* | *ug/Kg* | ☼ | *8.13* | *111-65-9* | *09/15/20 21:44* | *10/13/20 15:03* | *1* |
| *Octane, 2-methyl-* | *390* | *T J N* | *ug/Kg* | ☼ | *9.07* | *3221-61-2* | *09/15/20 21:44* | *10/13/20 15:03* | *1* |
| *Nonane* | *930* | *T J N* | *ug/Kg* | ☼ | *9.51* | *111-84-2* | *09/15/20 21:44* | *10/13/20 15:03* | *1* |
| *Nonane, 3-methyl-* | *320* | *T J N* | *ug/Kg* | ☼ | *10.35* | *5911-04-6* | *09/15/20 21:44* | *10/13/20 15:03* | *1* |
| *Decane* | *1300* | *T J N* | *ug/Kg* | ☼ | *10.65* | *124-18-5* | *09/15/20 21:44* | *10/13/20 15:03* | *1* |
| *Undecane* | *910* | *T J N* | *ug/Kg* | ☼ | *11.65* | *1120-21-4* | *09/15/20 21:44* | *10/13/20 15:03* | *1* |
| *Dodecane* | *440* | *T J N* | *ug/Kg* | ☼ | *12.56* | *112-40-3* | *09/15/20 21:44* | *10/13/20 15:03* | *1* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *59 - 120* | *09/15/20 21:44* | *10/13/20 15:03* | *1* |
| *4-Bromofluorobenzene (Surr)* | *96* | | *51 - 127* | *09/15/20 21:44* | *10/13/20 15:03* | *1* |
| *Dibromofluoromethane (Surr)* | *89* | | *56 - 122* | *09/15/20 21:44* | *10/13/20 15:03* | *1* |
| *Toluene-d8 (Surr)* | *100* | | *64 - 124* | *09/15/20 21:44* | *10/13/20 15:03* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Solids** | **99.3** | | 0.1 | 0.1 | % | | | 09/11/20 13:22 | 1 |
| **Percent Moisture** | **0.7** | | 0.1 | 0.1 | % | | | 09/11/20 13:22 | 1 |

Client: LaBella Associates DPC
Project/Site: 1700 Emerson St.

Job ID: 240-136235-1

**Client Sample ID: LAB-SBW-18 (31.8-32.2)**
**Date Collected: 09/03/20 14:30**
**Date Received: 09/09/20 10:30**

**Lab Sample ID: 240-136235-2**
**Matrix: Solid**
**Percent Solids: 98.5**

**Method: 8260C - Volatile Organic Compounds by GC/MS**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 80 | U | 260 | 80 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,1,2,2-Tetrachloroethane | 150 | U | 260 | 150 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 69 | U | 260 | 69 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,1,2-Trichloroethane | 59 | U | 260 | 59 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| **1,1-Dichloroethane** | **150** | **J** | 260 | 49 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,1-Dichloroethene | 84 | U | 260 | 84 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,2,4-Trichlorobenzene | 140 | U | 260 | 140 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,2,4-Trimethylbenzene | 55 | U | 260 | 55 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,2-Dibromo-3-Chloropropane | 230 | U | 510 | 230 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,2-Dichlorobenzene | 120 | U | 260 | 120 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,2-Dichloroethane | 48 | U | 260 | 48 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,2-Dichloropropane | 38 | U | 260 | 38 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,3,5-Trimethylbenzene | 40 | U | 260 | 40 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,3-Dichlorobenzene | 47 | U | 260 | 47 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,4-Dichlorobenzene | 57 | U | 260 | 57 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 1,4-Dioxane | 2400 | U | 13000 | 2400 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 2-Butanone (MEK) | 160 | U | 1000 | 160 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 2-Hexanone | 270 | U | 1000 | 270 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| 4-Methyl-2-pentanone (MIBK) | 240 | U | 1000 | 240 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| **Acetone** | **680** | **J** | 1000 | 250 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Benzene | 43 | U | 260 | 43 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Bromoform | 230 | U | 260 | 230 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Bromomethane | 170 | U | 260 | 170 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Carbon disulfide | 110 | U | 260 | 110 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Carbon tetrachloride | 100 | U | 260 | 100 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Chlorobenzene | 36 | U | 260 | 36 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Chlorodibromomethane | 120 | U | 260 | 120 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Chloroethane | 150 | U | 260 | 150 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Chloroform | 56 | U | 260 | 56 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Chloromethane | 68 | U | 260 | 68 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| **cis-1,2-Dichloroethene** | **71** | **J** | 260 | 41 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| cis-1,3-Dichloropropene | 130 | U | 260 | 130 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Cyclohexane | 170 | U | 510 | 170 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Dichlorobromomethane | 29 | U | 260 | 29 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Dichlorodifluoromethane | 55 | U | 260 | 55 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Ethylbenzene | 48 | U | 260 | 48 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Ethylene Dibromide | 81 | U | 260 | 81 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Isopropylbenzene | 39 | U | 260 | 39 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Methyl acetate | 170 | U | 1300 | 170 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Methyl tert-butyl ether | 38 | U | 260 | 38 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Methylcyclohexane | 68 | U | 510 | 68 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Methylene Chloride | 390 | U | 510 | 390 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Naphthalene | 120 | U | 260 | 120 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| n-Butylbenzene | 72 | U | 260 | 72 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| N-Propylbenzene | 29 | U | 260 | 29 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| p-Isopropyltoluene | 30 | U | 260 | 30 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| sec-Butylbenzene | 51 | U | 260 | 51 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Styrene | 53 | U | 260 | 53 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| tert-Butylbenzene | 51 | U | 260 | 51 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |

Client: LaBella Associates DPC
Project/Site: 1700 Emerson St.

Job ID: 240-136235-1

**Client Sample ID: LAB-SBW-18 (31.8-32.2)**
**Date Collected: 09/03/20 14:30**
**Date Received: 09/09/20 10:30**

**Lab Sample ID: 240-136235-2**
**Matrix: Solid**
**Percent Solids: 98.5**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | 100 | U | 260 | 100 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Toluene | 250 | U | 260 | 250 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| trans-1,2-Dichloroethene | 64 | U | 260 | 64 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| trans-1,3-Dichloropropene | 110 | U | 260 | 110 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| **Trichloroethene** | **150** | **J** | 260 | 150 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Trichlorofluoromethane | 140 | U | 260 | 140 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Vinyl chloride | 130 | U | 260 | 130 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |
| Xylenes, Total | 94 | U | 510 | 94 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:26 | 1 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Octane* | *460* | *T J N* | *ug/Kg* | ☼ | *8.13* | *111-65-9* | *09/15/20 21:44* | *10/13/20 15:26* | *1* |
| *Heptane, 2,4-dimethyl-* | *390* | *T J N* | *ug/Kg* | ☼ | *9.06* | *2213-23-2* | *09/15/20 21:44* | *10/13/20 15:26* | *1* |
| *Nonane* | *930* | *T J N* | *ug/Kg* | ☼ | *9.51* | *111-84-2* | *09/15/20 21:44* | *10/13/20 15:26* | *1* |
| *Nonane, 3-methyl-* | *300* | *T J N* | *ug/Kg* | ☼ | *10.35* | *5911-04-6* | *09/15/20 21:44* | *10/13/20 15:26* | *1* |
| *Decane* | *1300* | *T J N* | *ug/Kg* | ☼ | *10.65* | *124-18-5* | *09/15/20 21:44* | *10/13/20 15:26* | *1* |
| *Undecane* | *930* | *T J N* | *ug/Kg* | ☼ | *11.65* | *1120-21-4* | *09/15/20 21:44* | *10/13/20 15:26* | *1* |
| *Dodecane* | *480* | *T J N* | *ug/Kg* | ☼ | *12.56* | *112-40-3* | *09/15/20 21:44* | *10/13/20 15:26* | *1* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *59 - 120* | *09/15/20 21:44* | *10/13/20 15:26* | *1* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *51 - 127* | *09/15/20 21:44* | *10/13/20 15:26* | *1* |
| *Dibromofluoromethane (Surr)* | *90* | | *56 - 122* | *09/15/20 21:44* | *10/13/20 15:26* | *1* |
| *Toluene-d8 (Surr)* | *101* | | *64 - 124* | *09/15/20 21:44* | *10/13/20 15:26* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Solids** | **98.5** | | 0.1 | 0.1 | % | | | 09/11/20 13:22 | 1 |
| **Percent Moisture** | **1.5** | | 0.1 | 0.1 | % | | | 09/11/20 13:22 | 1 |

**Client Sample ID: LAB-SBW-19 (22.0-22.4)**
**Date Collected: 09/04/20 15:00**
**Date Received: 09/09/20 10:30**

**Lab Sample ID: 240-136235-3**
**Matrix: Solid**
**Percent Solids: 98.8**

## Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 80 | U | 260 | 80 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,1,2,2-Tetrachloroethane | 150 | U | 260 | 150 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 69 | U | 260 | 69 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,1,2-Trichloroethane | 58 | U | 260 | 58 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,1-Dichloroethane | 49 | U | 260 | 49 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,1-Dichloroethene | 84 | U | 260 | 84 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,2,4-Trichlorobenzene | 140 | U | 260 | 140 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,2,4-Trimethylbenzene | 54 | U | 260 | 54 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,2-Dibromo-3-Chloropropane | 230 | U | 510 | 230 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,2-Dichlorobenzene | 120 | U | 260 | 120 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,2-Dichloroethane | 48 | U | 260 | 48 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,2-Dichloropropane | 38 | U | 260 | 38 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,3,5-Trimethylbenzene | 40 | U | 260 | 40 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,3-Dichlorobenzene | 47 | U | 260 | 47 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,4-Dichlorobenzene | 56 | U | 260 | 56 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 1,4-Dioxane | 2400 | U | 13000 | 2400 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 2-Butanone (MEK) | 160 | U | 1000 | 160 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 2-Hexanone | 270 | U | 1000 | 270 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| 4-Methyl-2-pentanone (MIBK) | 240 | U | 1000 | 240 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| **Acetone** | **280** | **J** | 1000 | 250 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Benzene | 43 | U | 260 | 43 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Bromoform | 230 | U | 260 | 230 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Bromomethane | 170 | U | 260 | 170 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Carbon disulfide | 110 | U | 260 | 110 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Carbon tetrachloride | 100 | U | 260 | 100 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Chlorobenzene | 36 | U | 260 | 36 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Chlorodibromomethane | 120 | U | 260 | 120 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Chloroethane | 150 | U | 260 | 150 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Chloroform | 55 | U | 260 | 55 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Chloromethane | 68 | U | 260 | 68 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| **cis-1,2-Dichloroethene** | **410** | | 260 | 41 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| cis-1,3-Dichloropropene | 130 | U | 260 | 130 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Cyclohexane | 170 | U | 510 | 170 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Dichlorobromomethane | 29 | U | 260 | 29 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Dichlorodifluoromethane | 54 | U | 260 | 54 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Ethylbenzene | 48 | U | 260 | 48 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Ethylene Dibromide | 81 | U | 260 | 81 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Isopropylbenzene | 39 | U | 260 | 39 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Methyl acetate | 170 | U | 1300 | 170 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Methyl tert-butyl ether | 38 | U | 260 | 38 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Methylcyclohexane | 68 | U | 510 | 68 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Methylene Chloride | 390 | U | 510 | 390 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Naphthalene | 120 | U | 260 | 120 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| n-Butylbenzene | 72 | U | 260 | 72 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| N-Propylbenzene | 29 | U | 260 | 29 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| p-Isopropyltoluene | 30 | U | 260 | 30 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| sec-Butylbenzene | 51 | U | 260 | 51 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Styrene | 53 | U | 260 | 53 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| tert-Butylbenzene | 51 | U | 260 | 51 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |

**Client Sample ID: LAB-SBW-19 (22.0-22.4)**
**Date Collected: 09/04/20 15:00**
**Date Received: 09/09/20 10:30**

**Lab Sample ID: 240-136235-3**
**Matrix: Solid**
**Percent Solids: 98.8**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | 99 | U | 260 | 99 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Toluene | 250 | U | 260 | 250 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| trans-1,2-Dichloroethene | 64 | U | 260 | 64 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| trans-1,3-Dichloropropene | 110 | U | 260 | 110 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Trichloroethene | 150 | U | 260 | 150 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Trichlorofluoromethane | 140 | U | 260 | 140 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Vinyl chloride | 130 | U | 260 | 130 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |
| Xylenes, Total | 93 | U | 510 | 93 | ug/Kg | ☼ | 09/15/20 21:44 | 10/13/20 15:50 | 1 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Octane* | *450* | *T J N* | *ug/Kg* | ☼ | *8.13* | *111-65-9* | *09/15/20 21:44* | *10/13/20 15:50* | *1* |
| *Heptane, 2,4-dimethyl-* | *480* | *T J N* | *ug/Kg* | ☼ | *9.06* | *2213-23-2* | *09/15/20 21:44* | *10/13/20 15:50* | *1* |
| *Octane, 3-methyl-* | *340* | *T J N* | *ug/Kg* | ☼ | *9.16* | *2216-33-3* | *09/15/20 21:44* | *10/13/20 15:50* | *1* |
| *Nonane* | *1100* | *T J N* | *ug/Kg* | ☼ | *9.51* | *111-84-2* | *09/15/20 21:44* | *10/13/20 15:50* | *1* |
| *Nonane, 3-methyl-* | *360* | *T J N* | *ug/Kg* | ☼ | *10.35* | *5911-04-6* | *09/15/20 21:44* | *10/13/20 15:50* | *1* |
| *Decane* | *1600* | *T J N* | *ug/Kg* | ☼ | *10.65* | *124-18-5* | *09/15/20 21:44* | *10/13/20 15:50* | *1* |
| *Undecane* | *1200* | *T J N* | *ug/Kg* | ☼ | *11.65* | *1120-21-4* | *09/15/20 21:44* | *10/13/20 15:50* | *1* |
| *Dodecane* | *600* | *T J N* | *ug/Kg* | ☼ | *12.56* | *112-40-3* | *09/15/20 21:44* | *10/13/20 15:50* | *1* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *59 - 120* | *09/15/20 21:44* | *10/13/20 15:50* | *1* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *51 - 127* | *09/15/20 21:44* | *10/13/20 15:50* | *1* |
| *Dibromofluoromethane (Surr)* | *89* | | *56 - 122* | *09/15/20 21:44* | *10/13/20 15:50* | *1* |
| *Toluene-d8 (Surr)* | *101* | | *64 - 124* | *09/15/20 21:44* | *10/13/20 15:50* | *1* |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Solids** | **98.8** | | 0.1 | 0.1 | % | | | 09/11/20 13:22 | 1 |
| **Percent Moisture** | **1.2** | | 0.1 | 0.1 | % | | | 09/11/20 13:22 | 1 |

# Surrogate Summary

Client: LaBella Associates DPC
Project/Site: 1700 Emerson St.

Job ID: 240-136235-1

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Matrix: Solid**

**Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | DCA | BFB | DBFM | TOL |
| Lab Sample ID | Client Sample ID | (59-120) | (51-127) | (56-122) | (64-124) |
| 240-136235-1 | LAB-SBW-17 (35.5-35.8) | 95 | 96 | 89 | 100 |
| 240-136235-2 | LAB-SBW-18 (31.8-32.2) | 98 | 97 | 90 | 101 |
| 240-136235-3 | LAB-SBW-19 (22.0-22.4) | 98 | 97 | 89 | 101 |
| LCS 240-451456/2-A | Lab Control Sample | 82 | 90 | 85 | 87 |
| MB 240-451456/1-A | Method Blank | 97 | 98 | 91 | 103 |

**Surrogate Legend**

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 240-451456/1-A**
**Matrix: Solid**
**Analysis Batch: 455767**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 451456**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 78 | U | 250 | 78 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,1,2,2-Tetrachloroethane | 150 | U | 250 | 150 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 67 | U | 250 | 67 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,1,2-Trichloroethane | 57 | U | 250 | 57 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,1-Dichloroethane | 48 | U | 250 | 48 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,1-Dichloroethene | 82 | U | 250 | 82 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,2,4-Trichlorobenzene | 130 | U | 250 | 130 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,2,4-Trimethylbenzene | 53 | U | 250 | 53 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,2-Dibromo-3-Chloropropane | 220 | U | 500 | 220 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,2-Dichlorobenzene | 120 | U | 250 | 120 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,2-Dichloroethane | 47 | U | 250 | 47 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,2-Dichloropropane | 37 | U | 250 | 37 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,3,5-Trimethylbenzene | 39 | U | 250 | 39 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,3-Dichlorobenzene | 46 | U | 250 | 46 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,4-Dichlorobenzene | 55 | U | 250 | 55 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 1,4-Dioxane | 2300 | U | 13000 | 2300 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 2-Butanone (MEK) | 160 | U | 1000 | 160 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 2-Hexanone | 260 | U | 1000 | 260 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| 4-Methyl-2-pentanone (MIBK) | 240 | U | 1000 | 240 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Acetone | 240 | U | 1000 | 240 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Benzene | 42 | U | 250 | 42 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Bromoform | 230 | U | 250 | 230 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Bromomethane | 170 | U | 250 | 170 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Carbon disulfide | 110 | U | 250 | 110 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Carbon tetrachloride | 100 | U | 250 | 100 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Chlorobenzene | 35 | U | 250 | 35 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Chlorodibromomethane | 120 | U | 250 | 120 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Chloroethane | 150 | U | 250 | 150 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Chloroform | 54 | U | 250 | 54 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Chloromethane | 66 | U | 250 | 66 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| cis-1,2-Dichloroethene | 40 | U | 250 | 40 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| cis-1,3-Dichloropropene | 120 | U | 250 | 120 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Cyclohexane | 160 | U | 500 | 160 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Dichlorobromomethane | 28 | U | 250 | 28 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Dichlorodifluoromethane | 53 | U | 250 | 53 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Ethylbenzene | 47 | U | 250 | 47 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Ethylene Dibromide | 79 | U | 250 | 79 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Isopropylbenzene | 38 | U | 250 | 38 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Methyl acetate | 170 | U | 1300 | 170 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Methyl tert-butyl ether | 37 | U | 250 | 37 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Methylcyclohexane | 66 | U | 500 | 66 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Methylene Chloride | 380 | U | 500 | 380 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Naphthalene | 120 | U | 250 | 120 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| n-Butylbenzene | 70 | U | 250 | 70 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| N-Propylbenzene | 28 | U | 250 | 28 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| p-Isopropyltoluene | 29 | U | 250 | 29 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| sec-Butylbenzene | 50 | U | 250 | 50 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Styrene | 52 | U | 250 | 52 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 240-451456/1-A**
**Matrix: Solid**
**Analysis Batch: 455767**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 451456**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| tert-Butylbenzene | 50 | U | 250 | 50 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Tetrachloroethene | 97 | U | 250 | 97 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Toluene | 240 | U | 250 | 240 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| trans-1,2-Dichloroethene | 62 | U | 250 | 62 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| trans-1,3-Dichloropropene | 110 | U | 250 | 110 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Trichloroethene | 140 | U | 250 | 140 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Trichlorofluoromethane | 140 | U | 250 | 140 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Vinyl chloride | 120 | U | 250 | 120 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |
| Xylenes, Total | 91 | U | 500 | 91 | ug/Kg | | 09/15/20 21:44 | 10/13/20 14:39 | 1 |

| *Tentatively Identified Compound* | *Est. Result* | *MB Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Tentatively Identified Compound* | *None* | | *ug/Kg* | | | | *09/15/20 21:44* | *10/13/20 14:39* | *1* |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *59 - 120* | *09/15/20 21:44* | *10/13/20 14:39* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *51 - 127* | *09/15/20 21:44* | *10/13/20 14:39* | *1* |
| *Dibromofluoromethane (Surr)* | *91* | | *56 - 122* | *09/15/20 21:44* | *10/13/20 14:39* | *1* |
| *Toluene-d8 (Surr)* | *103* | | *64 - 124* | *09/15/20 21:44* | *10/13/20 14:39* | *1* |

**Lab Sample ID: LCS 240-451456/2-A**
**Matrix: Solid**
**Analysis Batch: 455767**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 451456**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 1000 | 890 | | ug/Kg | | 89 | 60 - 126 |
| 1,1,2,2-Tetrachloroethane | 1000 | 984 | | ug/Kg | | 98 | 61 - 134 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 1000 | 805 | | ug/Kg | | 80 | 58 - 144 |
| 1,1,2-Trichloroethane | 1000 | 945 | | ug/Kg | | 94 | 78 - 120 |
| 1,1-Dichloroethane | 1000 | 887 | | ug/Kg | | 89 | 69 - 120 |
| 1,1-Dichloroethene | 1000 | 735 | | ug/Kg | | 74 | 48 - 140 |
| 1,2,4-Trichlorobenzene | 1000 | 1030 | | ug/Kg | | 103 | 56 - 120 |
| 1,2,4-Trimethylbenzene | 1000 | 1130 | | ug/Kg | | 113 | 69 - 122 |
| 1,2-Dibromo-3-Chloropropane | 1000 | 798 | | ug/Kg | | 80 | 35 - 137 |
| 1,2-Dichlorobenzene | 1000 | 994 | | ug/Kg | | 99 | 74 - 120 |
| 1,2-Dichloroethane | 1000 | 887 | | ug/Kg | | 89 | 66 - 120 |
| 1,2-Dichloropropane | 1000 | 925 | | ug/Kg | | 93 | 77 - 120 |
| 1,3,5-Trimethylbenzene | 1000 | 1140 | | ug/Kg | | 114 | 68 - 126 |
| 1,3-Dichlorobenzene | 1000 | 1050 | | ug/Kg | | 105 | 74 - 120 |
| 1,4-Dichlorobenzene | 1000 | 1040 | | ug/Kg | | 104 | 74 - 120 |
| 1,4-Dioxane | 20000 | 18600 | | ug/Kg | | 93 | 44 - 154 |
| 2-Butanone (MEK) | 2000 | 1670 | | ug/Kg | | 84 | 61 - 131 |
| 2-Hexanone | 2000 | 1900 | | ug/Kg | | 95 | 54 - 135 |
| 4-Methyl-2-pentanone (MIBK) | 2000 | 1980 | | ug/Kg | | 99 | 56 - 124 |
| Acetone | 2000 | 1630 | | ug/Kg | | 82 | 47 - 157 |
| Benzene | 1000 | 865 | | ug/Kg | | 86 | 75 - 120 |
| Bromoform | 1000 | 805 | | ug/Kg | | 80 | 44 - 131 |
| Bromomethane | 1000 | 280 | | ug/Kg | | 28 | 10 - 158 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 240-451456/2-A**
**Matrix: Solid**
**Analysis Batch: 455767**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 451456**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Carbon disulfide | 1000 | 378 | | ug/Kg | | 38 | 33 - 144 |
| Carbon tetrachloride | 1000 | 816 | | ug/Kg | | 82 | 54 - 130 |
| Chlorobenzene | 1000 | 982 | | ug/Kg | | 98 | 79 - 120 |
| Chlorodibromomethane | 1000 | 930 | | ug/Kg | | 93 | 60 - 121 |
| Chloroethane | 1000 | 246 | J | ug/Kg | | 25 | 10 - 159 |
| Chloroform | 1000 | 866 | | ug/Kg | | 87 | 74 - 120 |
| Chloromethane | 1000 | 489 | | ug/Kg | | 49 | 40 - 127 |
| cis-1,2-Dichloroethene | 1000 | 876 | | ug/Kg | | 88 | 76 - 120 |
| cis-1,3-Dichloropropene | 1000 | 942 | | ug/Kg | | 94 | 62 - 124 |
| Cyclohexane | 1000 | 765 | | ug/Kg | | 76 | 57 - 126 |
| Dichlorobromomethane | 1000 | 938 | | ug/Kg | | 94 | 63 - 121 |
| Dichlorodifluoromethane | 1000 | 401 | | ug/Kg | | 40 | 18 - 137 |
| Ethylbenzene | 1000 | 1060 | | ug/Kg | | 106 | 75 - 120 |
| Ethylene Dibromide | 1000 | 901 | | ug/Kg | | 90 | 73 - 126 |
| Isopropylbenzene | 1000 | 1150 | | ug/Kg | | 115 | 74 - 120 |
| Methyl acetate | 2000 | 2000 | | ug/Kg | | 100 | 63 - 120 |
| Methyl tert-butyl ether | 1000 | 906 | | ug/Kg | | 91 | 66 - 120 |
| Methylcyclohexane | 1000 | 785 | | ug/Kg | | 78 | 62 - 124 |
| Methylene Chloride | 1000 | 722 | | ug/Kg | | 72 | 48 - 142 |
| m-Xylene & p-Xylene | 1000 | 1110 | | ug/Kg | | 111 | 76 - 120 |
| Naphthalene | 1000 | 932 | | ug/Kg | | 93 | 43 - 127 |
| n-Butylbenzene | 1000 | 1180 | | ug/Kg | | 118 | 64 - 123 |
| N-Propylbenzene | 1000 | 1150 | | ug/Kg | | 115 | 70 - 122 |
| o-Xylene | 1000 | 1060 | | ug/Kg | | 106 | 76 - 120 |
| p-Isopropyltoluene | 1000 | 1180 | | ug/Kg | | 118 | 70 - 121 |
| sec-Butylbenzene | 1000 | 1140 | | ug/Kg | | 114 | 69 - 122 |
| Styrene | 1000 | 1060 | | ug/Kg | | 106 | 70 - 120 |
| tert-Butylbenzene | 1000 | 1160 | | ug/Kg | | 116 | 68 - 121 |
| Tetrachloroethene | 1000 | 969 | | ug/Kg | | 97 | 75 - 124 |
| Toluene | 1000 | 1030 | | ug/Kg | | 103 | 76 - 120 |
| trans-1,2-Dichloroethene | 1000 | 786 | | ug/Kg | | 79 | 74 - 125 |
| trans-1,3-Dichloropropene | 1000 | 845 | | ug/Kg | | 84 | 58 - 120 |
| Trichloroethene | 1000 | 894 | | ug/Kg | | 89 | 75 - 123 |
| Trichlorofluoromethane | 1000 | 687 | | ug/Kg | | 69 | 33 - 152 |
| Vinyl chloride | 1000 | 568 | | ug/Kg | | 57 | 39 - 140 |
| Xylenes, Total | 2000 | 2170 | | ug/Kg | | 109 | 77 - 120 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *82* | | *59 - 120* |
| *4-Bromofluorobenzene (Surr)* | *90* | | *51 - 127* |
| *Dibromofluoromethane (Surr)* | *85* | | *56 - 122* |
| *Toluene-d8 (Surr)* | *87* | | *64 - 124* |

# QC Association Summary

Client: LaBella Associates DPC
Project/Site: 1700 Emerson St.

Job ID: 240-136235-1

## GC/MS VOA

### Processed Batch: 450979

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 240-136235-1 | LAB-SBW-17 (35.5-35.8) | Total/NA | Solid | Part Size Red | |
| 240-136235-2 | LAB-SBW-18 (31.8-32.2) | Total/NA | Solid | Part Size Red | |
| 240-136235-3 | LAB-SBW-19 (22.0-22.4) | Total/NA | Solid | Part Size Red | |

### Prep Batch: 451456

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 240-136235-1 | LAB-SBW-17 (35.5-35.8) | Total/NA | Solid | 5030C | 450979 |
| 240-136235-2 | LAB-SBW-18 (31.8-32.2) | Total/NA | Solid | 5030C | 450979 |
| 240-136235-3 | LAB-SBW-19 (22.0-22.4) | Total/NA | Solid | 5030C | 450979 |
| MB 240-451456/1-A | Method Blank | Total/NA | Solid | 5030C | |
| LCS 240-451456/2-A | Lab Control Sample | Total/NA | Solid | 5030C | |

### Analysis Batch: 455767

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 240-136235-1 | LAB-SBW-17 (35.5-35.8) | Total/NA | Solid | 8260C | 451456 |
| 240-136235-2 | LAB-SBW-18 (31.8-32.2) | Total/NA | Solid | 8260C | 451456 |
| 240-136235-3 | LAB-SBW-19 (22.0-22.4) | Total/NA | Solid | 8260C | 451456 |
| MB 240-451456/1-A | Method Blank | Total/NA | Solid | 8260C | 451456 |
| LCS 240-451456/2-A | Lab Control Sample | Total/NA | Solid | 8260C | 451456 |

## General Chemistry

### Processed Batch: 450979

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 240-136235-1 | LAB-SBW-17 (35.5-35.8) | Total/NA | Solid | Part Size Red | |
| 240-136235-2 | LAB-SBW-18 (31.8-32.2) | Total/NA | Solid | Part Size Red | |
| 240-136235-3 | LAB-SBW-19 (22.0-22.4) | Total/NA | Solid | Part Size Red | |

### Analysis Batch: 451000

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 240-136235-1 | LAB-SBW-17 (35.5-35.8) | Total/NA | Solid | Moisture | 450979 |
| 240-136235-2 | LAB-SBW-18 (31.8-32.2) | Total/NA | Solid | Moisture | 450979 |
| 240-136235-3 | LAB-SBW-19 (22.0-22.4) | Total/NA | Solid | Moisture | 450979 |

# Lab Chronicle

Client: LaBella Associates DPC
Project/Site: 1700 Emerson St.

Job ID: 240-136235-1

## Client Sample ID: LAB-SBW-17 (35.5-35.8)
**Date Collected: 09/01/20 12:00**
**Date Received: 09/09/20 10:30**

## Lab Sample ID: 240-136235-1
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Processed | Part Size Red | | | 450979 | 09/11/20 10:29 | POP | TAL CAN |
| Total/NA | Analysis | Moisture | | 1 | 451000 | 09/11/20 13:22 | AJ | TAL CAN |

## Client Sample ID: LAB-SBW-17 (35.5-35.8)
**Date Collected: 09/01/20 12:00**
**Date Received: 09/09/20 10:30**

## Lab Sample ID: 240-136235-1
**Matrix: Solid**
**Percent Solids: 99.3**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Processed | Part Size Red | | | 450979 | 09/11/20 10:29 | POP | TAL CAN |
| Total/NA | Prep | 5030C | | | 451456 | 09/15/20 21:44 | LAM | TAL CAN |
| Total/NA | Analysis | 8260C | | 1 | 455767 | 10/13/20 15:03 | SAM | TAL CAN |

## Client Sample ID: LAB-SBW-18 (31.8-32.2)
**Date Collected: 09/03/20 14:30**
**Date Received: 09/09/20 10:30**

## Lab Sample ID: 240-136235-2
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Processed | Part Size Red | | | 450979 | 09/11/20 10:29 | POP | TAL CAN |
| Total/NA | Analysis | Moisture | | 1 | 451000 | 09/11/20 13:22 | AJ | TAL CAN |

## Client Sample ID: LAB-SBW-18 (31.8-32.2)
**Date Collected: 09/03/20 14:30**
**Date Received: 09/09/20 10:30**

## Lab Sample ID: 240-136235-2
**Matrix: Solid**
**Percent Solids: 98.5**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Processed | Part Size Red | | | 450979 | 09/11/20 10:29 | POP | TAL CAN |
| Total/NA | Prep | 5030C | | | 451456 | 09/15/20 21:44 | LAM | TAL CAN |
| Total/NA | Analysis | 8260C | | 1 | 455767 | 10/13/20 15:26 | SAM | TAL CAN |

## Client Sample ID: LAB-SBW-19 (22.0-22.4)
**Date Collected: 09/04/20 15:00**
**Date Received: 09/09/20 10:30**

## Lab Sample ID: 240-136235-3
**Matrix: Solid**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Processed | Part Size Red | | | 450979 | 09/11/20 10:29 | POP | TAL CAN |
| Total/NA | Analysis | Moisture | | 1 | 451000 | 09/11/20 13:22 | AJ | TAL CAN |

## Client Sample ID: LAB-SBW-19 (22.0-22.4)
**Date Collected: 09/04/20 15:00**
**Date Received: 09/09/20 10:30**

## Lab Sample ID: 240-136235-3
**Matrix: Solid**
**Percent Solids: 98.8**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Processed | Part Size Red | | | 450979 | 09/11/20 10:29 | POP | TAL CAN |
| Total/NA | Prep | 5030C | | | 451456 | 09/15/20 21:44 | LAM | TAL CAN |
| Total/NA | Analysis | 8260C | | 1 | 455767 | 10/13/20 15:50 | SAM | TAL CAN |

# Lab Chronicle

Client: LaBella Associates DPC
Project/Site: 1700 Emerson St.

Job ID: 240-136235-1

**Laboratory References:**

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

# Accreditation/Certification Summary

Client: LaBella Associates DPC
Project/Site: 1700 Emerson St.

Job ID: 240-136235-1

## Laboratory: Eurofins TestAmerica, Canton

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| New York | NELAP | 10975 | 03-31-21 |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte |
|---|---|---|---|
| Moisture | | Solid | Percent Moisture |
| Moisture | | Solid | Percent Solids |

**Eurofins TestAmerica, ~~Buffalo~~** north canton
~~10 Hazelwood Drive~~
~~Amherst, NY 14228-2298~~
Phone: 716-~~691-2600~~ Fax: 716-691-7991

4101 Shuffel St NW, North Canton OH, 44720

# Chain of Custody Record

2.1/3.0

eurofins Environment Testing TestAmerica

| Client Information | Sampler: ~~Cameron Hoag~~ | Lab PM: Johnson, Orlette S | Carrier Tracking No(s): | COC No: ~~480-139654-31402.2~~ |
|---|---|---|---|---|
| Client Contact: ~~Christy Sabol~~ Katherine Truong / ann Barber | Phone: 585-200-3486 | E-Mail: orlette.johnson@testamericainc.com | | Page: ~~Page 2 of 2~~ |
| Company: LaBella Associates DPC | | | | Job #: |
| Address: 300 State Street Suite 201 | Due Date Requested: | | | |
| City: Rochester | TAT Requested (days): | | | |
| State, Zip: NY, 14614 | | | | |
| Phone: | PO #: ~~CallOut 18-136184~~ | | | |
| Email: ~~crobol@labellapc.com~~ KTruong@labellapc.com aabarber@labellapc.com | WO #: | | | |
| Project Name: ~~1956 Lyell Ave #1707571-PIN 97018~~ 1760 Emerson St | Project #: ~~46021437~~ | | | |
| Site: | SSOW#: | | | |

**Analysis Requested**

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

| Sample Identification | Sample Date | Sample Time | Sample Type (C=Comp, G=grab) | Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 6010C - Metals Only | 8260C - (MOD) STARS List VOA | TCL + CP-51 VOCs + TICs | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Preservation Code: | | | | D | A | | | |
| LAB - SBW - 17 (35.5 - 35.8) | 9/1/20 | 1200 | G | ~~Water~~ | N | N | | | X | | |
| LAB - SBW - 18 (31.8 - 32.2) | 9/1/20 | 1430 | G | ~~Water~~ | N | N | | | X | | |
| LAB - SBW - 19 (22.0 - 22.4) | 9/1/20 | 1500 | G | ROCK | N | N | | | X | | |

240-136235 Chain of Custody

**Possible Hazard Identification**
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

**Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)**
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify): EQUIS ASP - CADD Report

Special Instructions/QC Requirements:

| Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: |
|---|---|---|---|

| | Relinquished by | Date/Time | Company | Received by | Date/Time | Company |
|---|---|---|---|---|---|---|
| 1 | | 9/8/2020 1440 | LaBella | | 9-9-20 1030 | ETA |
| 2 | Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |
| 3 | Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

**Eurofins TestAmerica Canton Sample Receipt Form/Narrative** **Login # : 136235**
**Canton Facility**

Client LaBella Site Name

Cooler Received on 9-9-20 Opened on 9-9-20

Cooler unpacked by: MaHSmith

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other

**Receipt After-hours**: Drop-off Date/Time Storage Location

TestAmerica Cooler # TA Foam Box Client Cooler Box Other

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
   IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. 2.1 °C Corrected Cooler Temp. 3.0 °C

| | | |
|---|---|---|
| 2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 | (Yes) | No |
| -Were the seals on the outside of the cooler(s) signed & dated? | (Yes) | No NA |
| -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? | Yes | (No) |
| -Were tamper/custody seals intact and uncompromised? | (Yes) | No NA |
| 3. Shippers' packing slip attached to the cooler(s)? | (Yes) | No |
| 4. Did custody papers accompany the sample(s)? | (Yes) | No |
| 5. Were the custody papers relinquished & signed in the appropriate place? | (Yes) | No |
| 6. Was/were the person(s) who collected the samples clearly identified on the COC? | (Yes) | No |
| 7. Did all bottles arrive in good condition (Unbroken)? | (Yes) | No |
| 8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? | (Yes) | No |
| 9. For each sample, does the COC specify preservatives (Y/(N)), # of containers (Y/(N)), and sample type of grab/comp(Y/(N))? | | |
| 10. Were correct bottle(s) used for the test(s) indicated? | (Yes) | No |
| 11. Sufficient quantity received to perform indicated analyses? | (Yes) | No |
| 12. Are these work share samples and all listed on the COC? | Yes | (No) |
| If yes, Questions 13-17 have been checked at the originating laboratory. | | |
| 13. Were all preserved sample(s) at the correct pH upon receipt? | Yes No | (NA) pH Strip Lot# HC907861 |
| 14. Were VOAs on the COC? | Yes | (No) |
| 15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this. | Yes No | (NA) |
| 16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # | Yes | (No) |
| 17. Was a LL Hg or Me Hg trip blank present? | Yes | (No) |

**Tests that are not checked for pH by Receiving:**
**VOAs**
**Oil and Grease**
**TOC**

Contacted PM Date by via Verbal Voice Mail Other

Concerning

**18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES** ☐ additional next page

Samples processed by:

**19. SAMPLE CONDITION**

Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

**20. SAMPLE PRESERVATION**

Sample(s) were further preserved in the laboratory.
Time preserved: Preservative(s) added/Lot number(s):

VOA Sample Preservation - Date/Time VOAs Frozen:

eurofins | Environment Testing America

# ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-141676-1
Client Project/Site: FESL - 210173

For:
LaBella Associates DPC
300 State Street
Suite 201
Rochester, New York 14614

Attn: Ann Barber

*Authorized for release by:*
*1/15/2021 12:25:01 PM*

Kris Brooks, Project Manager II
(330)966-9790
Kris.Brooks@Eurofinset.com

# Table of Contents

# Definitions/Glossary

Client: LaBella Associates DPC
Project/Site: FESL - 210173

Job ID: 240-141676-1

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| *+ | LCS and/or LCSD is outside acceptance limits, high biased. |
| H | Sample was prepped or analyzed beyond the specified holding time |
| U | Indicates the analyte was analyzed for but not detected. |

### GC/MS VOA TICs

| Qualifier | Qualifier Description |
|---|---|
| H | Sample was prepped or analyzed beyond the specified holding time |
| J | Indicates an Estimated Value for TICs |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| N | This flag indicates the presumptive evidence of a compound. |
| T | Result is  a tentatively identified compound (TIC) and an estimated value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CFU | Colony Forming Unit |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MCL | EPA recommended "Maximum Contaminant Level" |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MPN | Most Probable Number |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| NEG | Negative / Absent |
| POS | Positive / Present |
| PQL | Practical Quantitation Limit |
| PRES | Presumptive |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

## Job ID: 240-141676-1

### Laboratory: Eurofins TestAmerica, Canton

**Narrative**

**Job Narrative**
**240-141676-1**

**Comments**
No additional comments.

**Receipt**
The sample was received on 12/10/2020 10:30 AM; the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.0º C.

**GC/MS VOA**
Method 5030C: Sample LAB-SBW-20 (29.6-29.9) (240-141676-1) was kept in contact with methanol for 4 weeks prior to analysis. The sample was shaken for 15 minutes on 12/15/20, 12/22/20, 12/29/20, and 1/7/21.

Method 8260C: The continuing calibration verification (CCV) associated with batch 240-468773 recovered above the upper control limit for: 1,1,1-Trichloroethane; 1,1,2-Trichloro-1,2,2-trifluoroethane; Carbon tetrachloride; Dichloro-difluoromethane; Methylcyclohexane and Trichlorofluoromethane . The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260C: The following sample was analyzed outside of analytical holding time due to the terms of the project: LAB-SBW-20 (29.6-29.9) (240-141676-1).

Method 8260C: The laboratory control sample (LCS) for preparation batch 240-465022 and 240-465613 and analytical batch 240-468773 recovered outside control limits for the following analyte: Methyl acetate. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**General Chemistry**
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Method Summary

Client: LaBella Associates DPC
Project/Site: FESL - 210173

Job ID: 240-141676-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260C | Volatile Organic Compounds by GC/MS | SW846 | TAL CAN |
| Moisture | Percent Moisture | EPA | TAL CAN |
| 5030C | Purge and Trap | SW846 | TAL CAN |
| Part Size Red | Particle Size Reduction Preparation | None | TAL CAN |

**Protocol References:**

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

# Sample Summary

Client: LaBella Associates DPC
Project/Site: FESL - 210173

Job ID: 240-141676-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---|---|---|---|---|---|
| 240-141676-1 | LAB-SBW-20 (29.6-29.9) | Solid | 12/08/20 12:36 | 12/10/20 10:30 | |

# Detection Summary

Client: LaBella Associates DPC
Project/Site: FESL - 210173

Job ID: 240-141676-1

## Client Sample ID: LAB-SBW-20 (29.6-29.9) — Lab Sample ID: 240-141676-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 10000 | H | 720 | 120 | ug/Kg | 2.857 | ☼ | 8260C | Total/NA |
| Trichloroethene | 16000 | H | 720 | 410 | ug/Kg | 2.857 | ☼ | 8260C | Total/NA |

This Detection Summary does not include radiochemical test results.

Client: LaBella Associates DPC
Project/Site: FESL - 210173

Job ID: 240-141676-1

**Client Sample ID: LAB-SBW-20 (29.6-29.9)**
**Date Collected: 12/08/20 12:36**
**Date Received: 12/10/20 10:30**

**Lab Sample ID: 240-141676-1**
**Matrix: Solid**
**Percent Solids: 99.3**

**Method: 8260C - Volatile Organic Compounds by GC/MS**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 230 | U H | 720 | 230 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,1,2,2-Tetrachloroethane | 430 | U H | 720 | 430 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 190 | U H | 720 | 190 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,1,2-Trichloroethane | 170 | U H | 720 | 170 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,1-Dichloroethane | 140 | U H | 720 | 140 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,1-Dichloroethene | 240 | U H | 720 | 240 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,2,4-Trichlorobenzene | 390 | U H | 720 | 390 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,2,4-Trimethylbenzene | 150 | U H | 720 | 150 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,2-Dibromo-3-Chloropropane | 640 | U H | 1400 | 640 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,2-Dichlorobenzene | 350 | U H | 720 | 350 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,2-Dichloroethane | 140 | U H | 720 | 140 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,2-Dichloropropane | 110 | U H | 720 | 110 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,3,5-Trimethylbenzene | 110 | U H | 720 | 110 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,3-Dichlorobenzene | 130 | U H | 720 | 130 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,4-Dichlorobenzene | 160 | U H | 720 | 160 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 1,4-Dioxane | 6700 | U H | 36000 | 6700 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 2-Butanone (MEK) | 460 | U H | 2900 | 460 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 2-Hexanone | 760 | U H | 2900 | 760 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| 4-Methyl-2-pentanone (MIBK) | 690 | U H | 2900 | 690 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Acetone | 710 | U H | 2900 | 710 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Benzene | 120 | U H | 720 | 120 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Bromoform | 660 | U H | 720 | 660 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Bromomethane | 480 | U H | 720 | 480 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Carbon disulfide | 310 | U H | 720 | 310 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Carbon tetrachloride | 300 | U H | 720 | 300 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Chlorobenzene | 100 | U H | 720 | 100 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Chlorodibromomethane | 340 | U H | 720 | 340 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Chloroethane | 430 | U H | 720 | 430 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Chloroform | 160 | U H | 720 | 160 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Chloromethane | 190 | U H | 720 | 190 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| **cis-1,2-Dichloroethene** | **10000** | **H** | 720 | 120 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| cis-1,3-Dichloropropene | 360 | U H | 720 | 360 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Cyclohexane | 470 | U H | 1400 | 470 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Dichlorobromomethane | 81 | U H | 720 | 81 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Dichlorodifluoromethane | 150 | U H | 720 | 150 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Ethylbenzene | 140 | U H | 720 | 140 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Ethylene Dibromide | 230 | U H | 720 | 230 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Isopropylbenzene | 110 | U H | 720 | 110 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Methyl acetate | 490 | U H *+ | 3600 | 490 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Methyl tert-butyl ether | 110 | U H | 720 | 110 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Methylcyclohexane | 190 | U H | 1400 | 190 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Methylene Chloride | 1100 | U H | 1400 | 1100 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Naphthalene | 340 | U H | 720 | 340 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| n-Butylbenzene | 200 | U H | 720 | 200 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| N-Propylbenzene | 81 | U H | 720 | 81 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| p-Isopropyltoluene | 84 | U H | 720 | 84 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| sec-Butylbenzene | 140 | U H | 720 | 140 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Styrene | 150 | U H | 720 | 150 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| tert-Butylbenzene | 140 | U H | 720 | 140 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |

## Client Sample ID: LAB-SBW-20 (29.6-29.9)

**Date Collected: 12/08/20 12:36**
**Date Received: 12/10/20 10:30**

## Lab Sample ID: 240-141676-1

**Matrix: Solid**
**Percent Solids: 99.3**

### Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | 280 | U H | 720 | 280 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Toluene | 700 | U H | 720 | 700 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| trans-1,2-Dichloroethene | 180 | U H | 720 | 180 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| trans-1,3-Dichloropropene | 300 | U H | 720 | 300 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| **Trichloroethene** | **16000** | **H** | 720 | 410 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Trichlorofluoromethane | 400 | U H | 720 | 400 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Vinyl chloride | 360 | U H | 720 | 360 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |
| Xylenes, Total | 260 | U H | 1400 | 260 | ug/Kg | ☼ | 12/15/20 20:47 | 01/12/21 17:52 | 2.857 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Unknown* | *3300* | *T H J* | *ug/Kg* | ☼ | *2.87* | | *12/15/20 20:47* | *01/12/21 17:52* | *2.857* |
| *Nonane* | *1400* | *T H J N* | *ug/Kg* | ☼ | *9.51* | *111-84-2* | *12/15/20 20:47* | *01/12/21 17:52* | *2.857* |
| *Decane* | *2100* | *T H J N* | *ug/Kg* | ☼ | *10.64* | *124-18-5* | *12/15/20 20:47* | *01/12/21 17:52* | *2.857* |
| *Undecane* | *1800* | *T H J N* | *ug/Kg* | ☼ | *11.65* | *1120-21-4* | *12/15/20 20:47* | *01/12/21 17:52* | *2.857* |
| *Dodecane* | *1100* | *T H J N* | *ug/Kg* | ☼ | *12.56* | *112-40-3* | *12/15/20 20:47* | *01/12/21 17:52* | *2.857* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *114* | | *59 - 120* | *12/15/20 20:47* | *01/12/21 17:52* | *2.857* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *51 - 127* | *12/15/20 20:47* | *01/12/21 17:52* | *2.857* |
| *Dibromofluoromethane (Surr)* | *99* | | *56 - 122* | *12/15/20 20:47* | *01/12/21 17:52* | *2.857* |
| *Toluene-d8 (Surr)* | *98* | | *64 - 124* | *12/15/20 20:47* | *01/12/21 17:52* | *2.857* |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Percent Solids** | **99.3** | | 0.1 | 0.1 | % | | | 12/16/20 12:25 | 1 |
| **Percent Moisture** | **0.7** | | 0.1 | 0.1 | % | | | 12/16/20 12:25 | 1 |

# Surrogate Summary

Client: LaBella Associates DPC
Project/Site: FESL - 210173

Job ID: 240-141676-1

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Matrix: Solid**

**Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | DCA | BFB | DBFM | TOL |
| Lab Sample ID | Client Sample ID | (59-120) | (51-127) | (56-122) | (64-124) |
| 240-141676-1 | LAB-SBW-20 (29.6-29.9) | 114 | 99 | 99 | 98 |
| LCS 240-465613/2-A | Lab Control Sample | 92 | 88 | 92 | 80 |
| MB 240-465613/1-A | Method Blank | 106 | 94 | 97 | 94 |

**Surrogate Legend**

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 240-465613/1-A**
**Matrix: Solid**
**Analysis Batch: 468773**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 465613**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 78 | U | 250 | 78 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,1,2,2-Tetrachloroethane | 150 | U | 250 | 150 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 67 | U | 250 | 67 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,1,2-Trichloroethane | 57 | U | 250 | 57 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,1-Dichloroethane | 48 | U | 250 | 48 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,1-Dichloroethene | 82 | U | 250 | 82 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,2,4-Trichlorobenzene | 130 | U | 250 | 130 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,2,4-Trimethylbenzene | 53 | U | 250 | 53 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,2-Dibromo-3-Chloropropane | 220 | U | 500 | 220 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,2-Dichlorobenzene | 120 | U | 250 | 120 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,2-Dichloroethane | 47 | U | 250 | 47 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,2-Dichloropropane | 37 | U | 250 | 37 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,3,5-Trimethylbenzene | 39 | U | 250 | 39 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,3-Dichlorobenzene | 46 | U | 250 | 46 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,4-Dichlorobenzene | 55 | U | 250 | 55 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 1,4-Dioxane | 2300 | U | 13000 | 2300 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 2-Butanone (MEK) | 160 | U | 1000 | 160 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 2-Hexanone | 260 | U | 1000 | 260 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| 4-Methyl-2-pentanone (MIBK) | 240 | U | 1000 | 240 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Acetone | 240 | U | 1000 | 240 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Benzene | 42 | U | 250 | 42 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Bromoform | 230 | U | 250 | 230 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Bromomethane | 170 | U | 250 | 170 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Carbon disulfide | 110 | U | 250 | 110 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Carbon tetrachloride | 100 | U | 250 | 100 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Chlorobenzene | 35 | U | 250 | 35 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Chlorodibromomethane | 120 | U | 250 | 120 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Chloroethane | 150 | U | 250 | 150 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Chloroform | 54 | U | 250 | 54 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Chloromethane | 66 | U | 250 | 66 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| cis-1,2-Dichloroethene | 40 | U | 250 | 40 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| cis-1,3-Dichloropropene | 120 | U | 250 | 120 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Cyclohexane | 160 | U | 500 | 160 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Dichlorobromomethane | 28 | U | 250 | 28 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Dichlorodifluoromethane | 53 | U | 250 | 53 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Ethylbenzene | 47 | U | 250 | 47 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Ethylene Dibromide | 79 | U | 250 | 79 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Isopropylbenzene | 38 | U | 250 | 38 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Methyl acetate | 170 | U | 1300 | 170 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Methyl tert-butyl ether | 37 | U | 250 | 37 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Methylcyclohexane | 66 | U | 500 | 66 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Methylene Chloride | 380 | U | 500 | 380 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Naphthalene | 120 | U | 250 | 120 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| n-Butylbenzene | 70 | U | 250 | 70 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| N-Propylbenzene | 28 | U | 250 | 28 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| p-Isopropyltoluene | 29 | U | 250 | 29 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| sec-Butylbenzene | 50 | U | 250 | 50 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Styrene | 52 | U | 250 | 52 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 240-465613/1-A**
**Matrix: Solid**
**Analysis Batch: 468773**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**
**Prep Batch: 465613**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| tert-Butylbenzene | 50 | U | 250 | 50 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Tetrachloroethene | 97 | U | 250 | 97 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Toluene | 240 | U | 250 | 240 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| trans-1,2-Dichloroethene | 62 | U | 250 | 62 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| trans-1,3-Dichloropropene | 110 | U | 250 | 110 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Trichloroethene | 140 | U | 250 | 140 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Trichlorofluoromethane | 140 | U | 250 | 140 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Vinyl chloride | 120 | U | 250 | 120 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |
| Xylenes, Total | 91 | U | 500 | 91 | ug/Kg | | 12/15/20 20:47 | 01/12/21 17:28 | 1 |

| *Tentatively Identified Compound* | *MB Est. Result* | *MB Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *n-Butanol* | *4840* | *J* | *ug/Kg* | | *6.70* | *71-36-3* | *12/15/20 20:47* | *01/12/21 17:28* | *1* |
| *Tentatively Identified Compound* | *None* | | *ug/Kg* | | | | *12/15/20 20:47* | *01/12/21 17:28* | *1* |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *106* | | *59 - 120* | *12/15/20 20:47* | *01/12/21 17:28* | *1* |
| *4-Bromofluorobenzene (Surr)* | *94* | | *51 - 127* | *12/15/20 20:47* | *01/12/21 17:28* | *1* |
| *Dibromofluoromethane (Surr)* | *97* | | *56 - 122* | *12/15/20 20:47* | *01/12/21 17:28* | *1* |
| *Toluene-d8 (Surr)* | *94* | | *64 - 124* | *12/15/20 20:47* | *01/12/21 17:28* | *1* |

**Lab Sample ID: LCS 240-465613/2-A**
**Matrix: Solid**
**Analysis Batch: 468773**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 465613**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 1000 | 958 | | ug/Kg | | 96 | 60 - 126 |
| 1,1,2,2-Tetrachloroethane | 1000 | 936 | | ug/Kg | | 94 | 61 - 134 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 1000 | 932 | | ug/Kg | | 93 | 58 - 144 |
| 1,1,2-Trichloroethane | 1000 | 1020 | | ug/Kg | | 102 | 78 - 120 |
| 1,1-Dichloroethane | 1000 | 945 | | ug/Kg | | 95 | 69 - 120 |
| 1,1-Dichloroethene | 1000 | 814 | | ug/Kg | | 81 | 48 - 140 |
| 1,2,4-Trichlorobenzene | 1000 | 887 | | ug/Kg | | 89 | 56 - 120 |
| 1,2,4-Trimethylbenzene | 1000 | 994 | | ug/Kg | | 99 | 69 - 122 |
| 1,2-Dibromo-3-Chloropropane | 1000 | 778 | | ug/Kg | | 78 | 35 - 137 |
| 1,2-Dichlorobenzene | 1000 | 929 | | ug/Kg | | 93 | 74 - 120 |
| 1,2-Dichloroethane | 1000 | 1010 | | ug/Kg | | 101 | 66 - 120 |
| 1,2-Dichloropropane | 1000 | 1030 | | ug/Kg | | 103 | 77 - 120 |
| 1,3,5-Trimethylbenzene | 1000 | 973 | | ug/Kg | | 97 | 68 - 126 |
| 1,3-Dichlorobenzene | 1000 | 940 | | ug/Kg | | 94 | 74 - 120 |
| 1,4-Dichlorobenzene | 1000 | 937 | | ug/Kg | | 94 | 74 - 120 |
| 1,4-Dioxane | 20000 | 24000 | | ug/Kg | | 120 | 44 - 154 |
| 2-Butanone (MEK) | 2000 | 2110 | | ug/Kg | | 106 | 61 - 131 |
| 2-Hexanone | 2000 | 2010 | | ug/Kg | | 101 | 54 - 135 |
| 4-Methyl-2-pentanone (MIBK) | 2000 | 2030 | | ug/Kg | | 102 | 56 - 124 |
| Acetone | 2000 | 2330 | | ug/Kg | | 117 | 47 - 157 |
| Benzene | 1000 | 932 | | ug/Kg | | 93 | 75 - 120 |
| Bromoform | 1000 | 834 | | ug/Kg | | 83 | 44 - 131 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 240-465613/2-A**
**Matrix: Solid**
**Analysis Batch: 468773**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**
**Prep Batch: 465613**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Bromomethane | 1000 | 334 | | ug/Kg | | 33 | 10 - 158 |
| Carbon disulfide | 1000 | 386 | | ug/Kg | | 39 | 33 - 144 |
| Carbon tetrachloride | 1000 | 854 | | ug/Kg | | 85 | 54 - 130 |
| Chlorobenzene | 1000 | 931 | | ug/Kg | | 93 | 79 - 120 |
| Chlorodibromomethane | 1000 | 881 | | ug/Kg | | 88 | 60 - 121 |
| Chloroethane | 1000 | 290 | | ug/Kg | | 29 | 10 - 159 |
| Chloroform | 1000 | 988 | | ug/Kg | | 99 | 74 - 120 |
| Chloromethane | 1000 | 526 | | ug/Kg | | 53 | 40 - 127 |
| cis-1,2-Dichloroethene | 1000 | 975 | | ug/Kg | | 97 | 76 - 120 |
| cis-1,3-Dichloropropene | 1000 | 966 | | ug/Kg | | 97 | 62 - 124 |
| Cyclohexane | 1000 | 755 | | ug/Kg | | 76 | 57 - 126 |
| Dichlorobromomethane | 1000 | 1020 | | ug/Kg | | 102 | 63 - 121 |
| Dichlorodifluoromethane | 1000 | 474 | | ug/Kg | | 47 | 18 - 137 |
| Ethylbenzene | 1000 | 982 | | ug/Kg | | 98 | 75 - 120 |
| Ethylene Dibromide | 1000 | 956 | | ug/Kg | | 96 | 73 - 126 |
| Isopropylbenzene | 1000 | 1030 | | ug/Kg | | 103 | 74 - 120 |
| Methyl acetate | 2000 | 2450 | *+ | ug/Kg | | 123 | 63 - 120 |
| Methyl tert-butyl ether | 1000 | 1080 | | ug/Kg | | 108 | 66 - 120 |
| Methylcyclohexane | 1000 | 812 | | ug/Kg | | 81 | 62 - 124 |
| Methylene Chloride | 1000 | 1070 | | ug/Kg | | 107 | 48 - 142 |
| m-Xylene & p-Xylene | 1000 | 1110 | | ug/Kg | | 111 | 76 - 120 |
| Naphthalene | 1000 | 857 | | ug/Kg | | 86 | 43 - 127 |
| n-Butylbenzene | 1000 | 967 | | ug/Kg | | 97 | 64 - 123 |
| N-Propylbenzene | 1000 | 932 | | ug/Kg | | 93 | 70 - 122 |
| o-Xylene | 1000 | 1030 | | ug/Kg | | 103 | 76 - 120 |
| p-Isopropyltoluene | 1000 | 987 | | ug/Kg | | 99 | 70 - 121 |
| sec-Butylbenzene | 1000 | 977 | | ug/Kg | | 98 | 69 - 122 |
| Styrene | 1000 | 1080 | | ug/Kg | | 108 | 70 - 120 |
| tert-Butylbenzene | 1000 | 967 | | ug/Kg | | 97 | 68 - 121 |
| Tetrachloroethene | 1000 | 842 | | ug/Kg | | 84 | 75 - 124 |
| Toluene | 1000 | 1020 | | ug/Kg | | 102 | 76 - 120 |
| trans-1,2-Dichloroethene | 1000 | 835 | | ug/Kg | | 84 | 74 - 125 |
| trans-1,3-Dichloropropene | 1000 | 804 | | ug/Kg | | 80 | 58 - 120 |
| Trichloroethene | 1000 | 942 | | ug/Kg | | 94 | 75 - 123 |
| Trichlorofluoromethane | 1000 | 653 | | ug/Kg | | 65 | 33 - 152 |
| Vinyl chloride | 1000 | 596 | | ug/Kg | | 60 | 39 - 140 |
| Xylenes, Total | 2000 | 2140 | | ug/Kg | | 107 | 77 - 120 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *59 - 120* |
| *4-Bromofluorobenzene (Surr)* | *88* | | *51 - 127* |
| *Dibromofluoromethane (Surr)* | *92* | | *56 - 122* |
| *Toluene-d8 (Surr)* | *80* | | *64 - 124* |

# QC Association Summary

Client: LaBella Associates DPC
Project/Site: FESL - 210173

Job ID: 240-141676-1

## GC/MS VOA

### Processed Batch: 465022

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 240-141676-1 | LAB-SBW-20 (29.6-29.9) | Total/NA | Solid | Part Size Red | |

### Prep Batch: 465613

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 240-141676-1 | LAB-SBW-20 (29.6-29.9) | Total/NA | Solid | 5030C | 465022 |
| MB 240-465613/1-A | Method Blank | Total/NA | Solid | 5030C | |
| LCS 240-465613/2-A | Lab Control Sample | Total/NA | Solid | 5030C | |

### Analysis Batch: 468773

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 240-141676-1 | LAB-SBW-20 (29.6-29.9) | Total/NA | Solid | 8260C | 465613 |
| MB 240-465613/1-A | Method Blank | Total/NA | Solid | 8260C | 465613 |
| LCS 240-465613/2-A | Lab Control Sample | Total/NA | Solid | 8260C | 465613 |

## General Chemistry

### Processed Batch: 465022

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 240-141676-1 | LAB-SBW-20 (29.6-29.9) | Total/NA | Solid | Part Size Red | |

### Analysis Batch: 465739

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 240-141676-1 | LAB-SBW-20 (29.6-29.9) | Total/NA | Solid | Moisture | 465022 |

# Lab Chronicle

Client: LaBella Associates DPC
Project/Site: FESL - 210173

Job ID: 240-141676-1

## Client Sample ID: LAB-SBW-20 (29.6-29.9)

**Lab Sample ID: 240-141676-1**
**Date Collected: 12/08/20 12:36**
**Matrix: Solid**
**Date Received: 12/10/20 10:30**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Processed | Part Size Red | | | 465022 | 12/11/20 06:22 | POP | TAL CAN |
| Total/NA | Analysis | Moisture | | 1 | 465739 | 12/16/20 12:25 | AJ | TAL CAN |

## Client Sample ID: LAB-SBW-20 (29.6-29.9)

**Lab Sample ID: 240-141676-1**
**Date Collected: 12/08/20 12:36**
**Matrix: Solid**
**Date Received: 12/10/20 10:30**
**Percent Solids: 99.3**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Processed | Part Size Red | | | 465022 | 12/11/20 06:22 | POP | TAL CAN |
| Total/NA | Prep | 5030C | | | 465613 | 12/15/20 20:47 | LAM | TAL CAN |
| Total/NA | Analysis | 8260C | | 2.857 | 468773 | 01/12/21 17:52 | TJL2 | TAL CAN |

**Laboratory References:**

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

# Accreditation/Certification Summary

Client: LaBella Associates DPC
Project/Site: FESL - 210173

Job ID: 240-141676-1

## Laboratory: Eurofins TestAmerica, Canton

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| New York | NELAP | 10975 | 03-31-21 |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte |
|---|---|---|---|
| Moisture | | Solid | Percent Moisture |
| Moisture | | Solid | Percent Solids |

Eurofins TestAmerica, Canton
4101 Shuffel Street NW

North Canton, OH 44720-6900
phone 330.497.9396 fax 330.497.0772

21/3.0

# Chain of Custody Record

eurofins | Environment Testing America

**Regulatory Program:** ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

**TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica**

| Client Contact | Project Manager: Dan Noll | Site Contact: Katherine Tilley | Date: 12/8/2020 | COC No: |
|---|---|---|---|---|
| ~~Your Company Name here~~ Labella Associates | Email: DNoll@labellapc.com | Lab Contact: | Carrier: | 1 of 1 COCs |
| Address: 300 State St, Suite 200 | Tel/Fax: | | | TALS Project #: |
| City/State/Zip: Rochester, NY 14614 | Analysis Turnaround Time | | | Sampler: Katherine Tilley |
| (xxx) xxx-xxxx: 585-454 Phone | ☐ CALENDAR DAYS ☐ WORKING DAYS | | | For Lab Use Only: |
| (xxx) xxx-xxxx FAX | TAT if different from Below _____ | | | Walk-in Client: |
| Project Name: FESL | ☐ 2 weeks | | | Lab Sampling: |
| Site: 210173 | ☒ 1 week | | | Job / SDG No.: |
| PO # | ☐ 2 days | | | |
| | ☐ 1 day | | | |

| Sample Identification | Sample Date | Sample Time | Sample Type (C=Comp, G=Grab) | Matrix | # of Cont. | Filtered Sample (Y/N) | Perform MS/MSD (Y/N) | VOCs (8260) | Sample Specific Notes: |
|---|---|---|---|---|---|---|---|---|---|
| LAB-SBW-20(29.6-29.9) | 12/8/20 | 1230 | G | Rock | 1 | | | X | |


**Preservation Used:** 1= Ice, 2= HCl; 3= $H_2SO_4$; 4=$HNO_3$; 5=NaOH; 6= Other _____

**Possible Hazard Identification:**
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

**Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)**

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

**Special Instructions/QC Requirements & Comments:**

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
|---|---|---|---|---|---|
| Katherine Tilley | Labella | 12/8/20 1300 | | ELA | 12-10-20 0830 |
| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
| Relinquished by: | Company: | Date/Time: | Received in Laboratory by: | Company: | Date/Time: |

**Eurofins TestAmerica Canton Sample Receipt Form/Narrative** **Login # : 141676**
**Canton Facility**

Client LaBella Site Name

Cooler unpacked by: Matt Sm

Cooler Received on 12-10-20 Opened on 12-10-20

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

**Receipt After-hours**: Drop-off Date/Time Storage Location

TestAmerica Cooler # VT Foam Box Client Cooler Box Other

Packing material used: ~~Bubble Wrap~~ Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-11 (CF **+0.9** °C) Observed Cooler Temp. 2.1 °C Corrected Cooler Temp. 3.0 °C
   IR GUN #IR-12 (CF **+0.5**°C) Observed Cooler Temp. ____ °C Corrected Cooler Temp. ____ °C

| | | |
|---|---|---|
| 2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 | (Yes) | No |
| -Were the seals on the outside of the cooler(s) signed & dated? | (Yes) | No NA |
| -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? | Yes | (No) |
| -Were tamper/custody seals intact and uncompromised? | (Yes) | No NA |
| 3. Shippers' packing slip attached to the cooler(s)? | (Yes) | No |
| 4. Did custody papers accompany the sample(s)? | (Yes) | No |
| 5. Were the custody papers relinquished & signed in the appropriate place? | (Yes) | No |
| 6. Was/were the person(s) who collected the samples clearly identified on the COC? | (Yes) | No |
| 7. Did all bottles arrive in good condition (Unbroken)? | (Yes) | No |
| 8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? | (Yes) | No |
| 9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? | (Y) | (N) |
| 10. Were correct bottle(s) used for the test(s) indicated? | (Yes) | No |
| 11. Sufficient quantity received to perform indicated analyses? | (Yes) | No |
| 12. Are these work share samples and all listed on the COC? | Yes | (No) |
| If yes, Questions 13-17 have been checked at the originating laboratory. | | |
| 13. Were all preserved sample(s) at the correct pH upon receipt? | Yes | No (NA) pH Strip Lot# **HC907861** |
| 14. Were VOAs on the COC? | Yes | (No) |
| 15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. | Yes | No (NA) |
| 16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # ____ | Yes | (No) |
| 17. Was a LL Hg or Me Hg trip blank present? ____ | Yes | (No) |

**Tests that are not checked for pH by Receiving:**
**VOAs**
**Oil and Grease**
**TOC**

Contacted PM ____ Date ____ by ____ via Verbal Voice Mail Other

Concerning ____

**18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES** ☐ additional next page

Samples processed by: Rachel C

**19. SAMPLE CONDITION**

Sample(s) ____ were received after the recommended holding time had expired.
Sample(s) ____ were received in a broken container.
Sample(s) ____ were received with bubble >6 mm in diameter. (Notify PM)

**20. SAMPLE PRESERVATION**

Sample(s) ____ were further preserved in the laboratory.
Time preserved: ____ Preservative(s) added/Lot number(s): ____

VOA Sample Preservation - Date/Time VOAs Frozen: ____

*WI-NC-099*

# Design Phase Investigation
# Laboratory Reports

## Groundwater Samples

eurofins | Environment Testing America

# ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-175323-1
Client Project/Site: Former Emerson Street Landfill Project

For:
LaBella Associates DPC
300 State Street
Suite 201
Rochester, New York 14614

Attn: Ann Aquilina Barber

*Authorized for release by:*
*9/25/2020 12:16:00 PM*
Rebecca Jones, Project Management Assistant I
Rebecca.Jones@Eurofinset.com

Designee for

Brian Fischer, Manager of Project Management
(716)504-9835
Brian.Fischer@Eurofinset.com

# Table of Contents

# Definitions/Glossary

Client: LaBella Associates DPC
Job ID: 480-175323-1
Project/Site: Former Emerson Street Landfill Project

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### GC/MS VOA TICs

| Qualifier | Qualifier Description |
|---|---|
| J | Indicates an Estimated Value for TICs |
| N | Presumptive evidence of material. |
| T | Result is  a tentatively identified compound (TIC) and an estimated value. |

### GC VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### General Chemistry

| Qualifier | Qualifier Description |
|---|---|
| E | Result exceeded calibration range. |
| H | Sample was prepped or analyzed beyond the specified holding time |
| HF | Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CFU | Colony Forming Unit |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MCL | EPA recommended "Maximum Contaminant Level" |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MPN | Most Probable Number |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| NEG | Negative / Absent |
| POS | Positive / Present |
| PQL | Practical Quantitation Limit |
| PRES | Presumptive |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

## Job ID: 480-175323-1

### Laboratory: Eurofins TestAmerica, Buffalo

**Narrative**

**Job Narrative**
**480-175323-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 9/18/2020 10:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.7º C.

**GC/MS VOA**
Method 8260C: The following sample was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample was analyzed within the 7-day holding time specified for unpreserved samples: LAB-SBW-16-09172020 33 (480-175323-7). Sample pH is 7.

Method 8260C: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: LAB-SBW-16-09172020 44 (480-175323-8). Elevated reporting limits (RLs) are provided.

Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: LAB-SBW-16-09172020 33 (480-175323-7), LAB-SBW-15-09172020 28 (480-175323-9), LAB-SBW-15-09172020 28 (480-175323-9[MS]) and LAB-SBW-15-09172020 28 (480-175323-9[MSD]). Elevated reporting limits (RLs) are provided.

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-550342 recovered above the upper control limit for Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: LAB-SBW-16-09172020 33 (480-175323-7), LAB-SBW-16-09172020 44 (480-175323-8) and LAB-SBW-15-09172020 28 (480-175323-9).

Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: BD-GW-09172020 (480-175323-11). Elevated reporting limits (RLs) are provided.

Method 8260C: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: LAB-SBW-15-09172020 40 (480-175323-10). Elevated reporting limits (RLs) are provided.

Method 8260C: The continuing calibration verification (CCV) analyzed in 480-550523 was outside the method criteria for the following analyte: Methylcyclohexane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated. The associated samples are impacted: LAB-SBW-15-09172020 40 (480-175323-10) and BD-GW-09172020 (480-175323-11).

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-550523 recovered above the upper control limit for Methylcyclohexane. The sample associated with this CCV was non-detects for the affected analyte; therefore, the data have been reported. The associated sample is impacted: TRIP BLANK-09172020 (480-175323-12).

Method 8260C: The continuing calibration verification (CCV) analyzed in 480-550523 was outside the method criteria for the following analyte: 1,1,2-Trichloro-1,2,2-trifluoroethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated. The associated sample is impacted: BD-GW-09172020 (480-175323-11).

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-550523 recovered above the upper control limit for 1,1,2-Trichloro-1,2,2-trifluoroethane. The samples associated with this CCV were non-detected above the reporting limit for the affected analyte; therefore, the data have been reported. The associated samples are impacted: LAB-SBW-15-09172020 40 (480-175323-10) and TRIP BLANK-09172020 (480-175323-12).

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-550523 recovered above the upper control limit for 2-Hexanone, Cyclohexane, and Carbon disulfide. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: LAB-SBW-15-09172020 40 (480-175323-10), BD-GW-09172020 (480-175323-11) and TRIP BLANK-09172020 (480-175323-12).

## Job ID: 480-175323-1 (Continued)

### Laboratory: Eurofins TestAmerica, Buffalo (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**HPLC/IC**
Method 9056A: The following samples were diluted to bring the concentration of target analytes within the calibration range: LAB-SBW-19-09162020 35 (480-175323-1), LAB-SBW-19-09162020 47 (480-175323-2), LAB-SBW-18-09162020 38 (480-175323-3), LAB-SBW-18-09162020 47 (480-175323-4), LAB-SBW-17-09162020 42 (480-175323-5) and LAB-SBW-17-09162020 52 (480-175323-6). Elevated reporting limits (RLs) are provided.

Method 9056A: The following samples were diluted to bring the concentration of target analytes within the calibration range: LAB-SBW-17-09162020 42 (480-175323-5) and LAB-SBW-17-09162020 52 (480-175323-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**GC VOA**
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

**General Chemistry**
Method SM 3500 FE D: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: LAB-SBW-19-09162020 35 (480-175323-1), LAB-SBW-19-09162020 47 (480-175323-2), LAB-SBW-18-09162020 38 (480-175323-3), LAB-SBW-18-09162020 47 (480-175323-4), LAB-SBW-17-09162020 42 (480-175323-5) and LAB-SBW-17-09162020 52 (480-175323-6).

Method 353.2: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: LAB-SBW-19-09162020 35 (480-175323-1), LAB-SBW-19-09162020 47 (480-175323-2), LAB-SBW-18-09162020 38 (480-175323-3) and LAB-SBW-18-09162020 47 (480-175323-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: LaBella Associates DPC
Job ID: 480-175323-1
Project/Site: Former Emerson Street Landfill Project

## Client Sample ID: LAB-SBW-19-09162020 35 — Lab Sample ID: 480-175323-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 718 | | 5.0 | 2.8 | mg/L | 10 | | 9056A | Total/NA |
| Sulfate | 41.0 | | 20.0 | 3.5 | mg/L | 10 | | 9056A | Total/NA |

## Client Sample ID: LAB-SBW-19-09162020 47 — Lab Sample ID: 480-175323-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 666 | | 5.0 | 2.8 | mg/L | 10 | | 9056A | Total/NA |
| Sulfate | 29.5 | | 20.0 | 3.5 | mg/L | 10 | | 9056A | Total/NA |

## Client Sample ID: LAB-SBW-18-09162020 38 — Lab Sample ID: 480-175323-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Ethane | 300 | | 7.5 | 1.5 | ug/L | 1 | | RSK-175 | Total/NA |
| Chloride | 265 | | 5.0 | 2.8 | mg/L | 10 | | 9056A | Total/NA |

## Client Sample ID: LAB-SBW-18-09162020 47 — Lab Sample ID: 480-175323-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 268 | | 5.0 | 2.8 | mg/L | 10 | | 9056A | Total/NA |
| Sulfide | 0.80 | J | 1.0 | 0.67 | mg/L | 1 | | SM 4500 S2 F | Total/NA |

## Client Sample ID: LAB-SBW-17-09162020 42 — Lab Sample ID: 480-175323-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Ethane | 23 | | 7.5 | 1.5 | ug/L | 1 | | RSK-175 | Total/NA |
| Ethene | 15 | | 7.0 | 1.5 | ug/L | 1 | | RSK-175 | Total/NA |
| Chloride | 1030 | | 10.0 | 5.6 | mg/L | 20 | | 9056A | Total/NA |
| Sulfate | 101 | | 20.0 | 3.5 | mg/L | 10 | | 9056A | Total/NA |
| Sulfide | 0.80 | J | 1.0 | 0.67 | mg/L | 1 | | SM 4500 S2 F | Total/NA |

## Client Sample ID: LAB-SBW-17-09162020 52 — Lab Sample ID: 480-175323-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Ethane | 5.1 | J | 7.5 | 1.5 | ug/L | 1 | | RSK-175 | Total/NA |
| Chloride | 1130 | | 10.0 | 5.6 | mg/L | 20 | | 9056A | Total/NA |
| Sulfate | 112 | | 20.0 | 3.5 | mg/L | 10 | | 9056A | Total/NA |

## Client Sample ID: LAB-SBW-16-09172020 33 — Lab Sample ID: 480-175323-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 380 | | 40 | 33 | ug/L | 40 | | 8260C | Total/NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 460 | | 40 | 12 | ug/L | 40 | | 8260C | Total/NA |
| 1,1-Dichloroethane | 750 | | 40 | 15 | ug/L | 40 | | 8260C | Total/NA |
| 1,1-Dichloroethene | 21 | J | 40 | 12 | ug/L | 40 | | 8260C | Total/NA |
| Benzene | 22 | J | 40 | 16 | ug/L | 40 | | 8260C | Total/NA |
| Chloroethane | 44 | | 40 | 13 | ug/L | 40 | | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 1800 | | 40 | 32 | ug/L | 40 | | 8260C | Total/NA |
| Methyl tert-butyl ether | 24 | J | 40 | 6.4 | ug/L | 40 | | 8260C | Total/NA |
| Toluene | 120 | | 40 | 20 | ug/L | 40 | | 8260C | Total/NA |
| Vinyl chloride | 950 | | 40 | 36 | ug/L | 40 | | 8260C | Total/NA |
| Xylenes, Total | 50 | J | 80 | 26 | ug/L | 40 | | 8260C | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: LaBella Associates DPC
Job ID: 480-175323-1
Project/Site: Former Emerson Street Landfill Project

## Client Sample ID: LAB-SBW-16-09172020 44
## Lab Sample ID: 480-175323-8

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 10 | | 4.0 | 3.3 | ug/L | 4 | | 8260C | Total/NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 27 | | 4.0 | 1.2 | ug/L | 4 | | 8260C | Total/NA |
| 1,1-Dichloroethane | 34 | | 4.0 | 1.5 | ug/L | 4 | | 8260C | Total/NA |
| Chloroethane | 3.7 | J | 4.0 | 1.3 | ug/L | 4 | | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 28 | | 4.0 | 3.2 | ug/L | 4 | | 8260C | Total/NA |
| Toluene | 8.8 | | 4.0 | 2.0 | ug/L | 4 | | 8260C | Total/NA |
| Vinyl chloride | 14 | | 4.0 | 3.6 | ug/L | 4 | | 8260C | Total/NA |
| Xylenes, Total | 7.2 | J | 8.0 | 2.6 | ug/L | 4 | | 8260C | Total/NA |

## Client Sample ID: LAB-SBW-15-09172020 28
## Lab Sample ID: 480-175323-9

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 9.7 | J | 10 | 8.2 | ug/L | 10 | | 8260C | Total/NA |
| 1,1-Dichloroethane | 40 | | 10 | 3.8 | ug/L | 10 | | 8260C | Total/NA |
| Benzene | 35 | | 10 | 4.1 | ug/L | 10 | | 8260C | Total/NA |
| Chloroethane | 260 | | 10 | 3.2 | ug/L | 10 | | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 53 | | 10 | 8.1 | ug/L | 10 | | 8260C | Total/NA |
| Methyl tert-butyl ether | 6.4 | J | 10 | 1.6 | ug/L | 10 | | 8260C | Total/NA |
| Methylcyclohexane | 9.0 | J | 10 | 1.6 | ug/L | 10 | | 8260C | Total/NA |
| Vinyl chloride | 38 | | 10 | 9.0 | ug/L | 10 | | 8260C | Total/NA |

## Client Sample ID: LAB-SBW-15-09172020 40
## Lab Sample ID: 480-175323-10

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 14 | | 10 | 8.2 | ug/L | 10 | | 8260C | Total/NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 8.5 | J | 10 | 3.1 | ug/L | 10 | | 8260C | Total/NA |
| 1,1-Dichloroethane | 58 | | 10 | 3.8 | ug/L | 10 | | 8260C | Total/NA |
| Benzene | 45 | | 10 | 4.1 | ug/L | 10 | | 8260C | Total/NA |
| Chloroethane | 160 | | 10 | 3.2 | ug/L | 10 | | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 71 | | 10 | 8.1 | ug/L | 10 | | 8260C | Total/NA |
| Methyl tert-butyl ether | 7.5 | J | 10 | 1.6 | ug/L | 10 | | 8260C | Total/NA |
| Methylcyclohexane | 13 | | 10 | 1.6 | ug/L | 10 | | 8260C | Total/NA |
| Toluene | 7.8 | J | 10 | 5.1 | ug/L | 10 | | 8260C | Total/NA |
| Vinyl chloride | 61 | | 10 | 9.0 | ug/L | 10 | | 8260C | Total/NA |
| Xylenes, Total | 7.7 | J | 20 | 6.6 | ug/L | 10 | | 8260C | Total/NA |

## Client Sample ID: BD-GW-09172020
## Lab Sample ID: 480-175323-11

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 11 | | 5.0 | 4.1 | ug/L | 5 | | 8260C | Total/NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 5.9 | | 5.0 | 1.6 | ug/L | 5 | | 8260C | Total/NA |
| 1,1-Dichloroethane | 46 | | 5.0 | 1.9 | ug/L | 5 | | 8260C | Total/NA |
| Benzene | 45 | | 5.0 | 2.1 | ug/L | 5 | | 8260C | Total/NA |
| Chloroethane | 350 | | 5.0 | 1.6 | ug/L | 5 | | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 58 | | 5.0 | 4.1 | ug/L | 5 | | 8260C | Total/NA |
| Isopropylbenzene | 4.6 | J | 5.0 | 4.0 | ug/L | 5 | | 8260C | Total/NA |
| Methyl tert-butyl ether | 7.1 | | 5.0 | 0.80 | ug/L | 5 | | 8260C | Total/NA |
| Methylcyclohexane | 18 | | 5.0 | 0.80 | ug/L | 5 | | 8260C | Total/NA |
| Methylene Chloride | 2.6 | J | 5.0 | 2.2 | ug/L | 5 | | 8260C | Total/NA |
| Toluene | 6.2 | | 5.0 | 2.6 | ug/L | 5 | | 8260C | Total/NA |
| Vinyl chloride | 46 | | 5.0 | 4.5 | ug/L | 5 | | 8260C | Total/NA |
| Xylenes, Total | 6.0 | J | 10 | 3.3 | ug/L | 5 | | 8260C | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

# Detection Summary

Client: LaBella Associates DPC
Job ID: 480-175323-1
Project/Site: Former Emerson Street Landfill Project

**Client Sample ID: TRIP BLANK-09172020** **Lab Sample ID: 480-175323-12**

No Detections.

This Detection Summary does not include radiochemical test results.

## Client Sample ID: LAB-SBW-19-09162020 35
**Lab Sample ID: 480-175323-1**
**Date Collected: 09/16/20 11:05**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

### Method: RSK-175 - Dissolved Gases (GC)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethane | ND | | 7.5 | 1.5 | ug/L | | | 09/23/20 08:11 | 1 |
| Ethene | ND | | 7.0 | 1.5 | ug/L | | | 09/23/20 08:11 | 1 |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Nitrate | ND | H | 0.050 | 0.020 | mg/L as N | | | 09/18/20 14:11 | 1 |
| Nitrite | ND | H | 0.050 | 0.020 | mg/L as N | | | 09/18/20 14:15 | 1 |
| **Chloride** | **718** | | 5.0 | 2.8 | mg/L | | | 09/21/20 19:26 | 10 |
| **Sulfate** | **41.0** | | 20.0 | 3.5 | mg/L | | | 09/21/20 19:26 | 10 |
| Ferrous Iron | ND | HF | 0.10 | 0.075 | mg/L | | | 09/19/20 13:50 | 1 |
| Sulfide | ND | | 1.0 | 0.67 | mg/L | | | 09/22/20 16:35 | 1 |

## Client Sample ID: LAB-SBW-19-09162020 47
**Lab Sample ID: 480-175323-2**
**Date Collected: 09/16/20 12:40**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

### Method: RSK-175 - Dissolved Gases (GC)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethane | ND | | 7.5 | 1.5 | ug/L | | | 09/23/20 08:29 | 1 |
| Ethene | ND | | 7.0 | 1.5 | ug/L | | | 09/23/20 08:29 | 1 |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Nitrate | ND | H | 0.050 | 0.020 | mg/L as N | | | 09/18/20 14:16 | 1 |
| Nitrite | ND | H | 0.050 | 0.020 | mg/L as N | | | 09/18/20 14:16 | 1 |
| **Chloride** | **666** | | 5.0 | 2.8 | mg/L | | | 09/21/20 19:41 | 10 |
| **Sulfate** | **29.5** | | 20.0 | 3.5 | mg/L | | | 09/21/20 19:41 | 10 |
| Ferrous Iron | ND | HF | 0.10 | 0.075 | mg/L | | | 09/19/20 13:50 | 1 |
| Sulfide | ND | | 1.0 | 0.67 | mg/L | | | 09/22/20 16:35 | 1 |

## Client Sample ID: LAB-SBW-18-09162020 38
**Lab Sample ID: 480-175323-3**
**Date Collected: 09/16/20 11:15**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

### Method: RSK-175 - Dissolved Gases (GC)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Ethane** | **300** | | 7.5 | 1.5 | ug/L | | | 09/23/20 08:48 | 1 |
| Ethene | ND | | 7.0 | 1.5 | ug/L | | | 09/23/20 08:48 | 1 |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Nitrate | ND | H | 0.050 | 0.020 | mg/L as N | | | 09/18/20 14:17 | 1 |
| Nitrite | ND | H | 0.050 | 0.020 | mg/L as N | | | 09/18/20 14:18 | 1 |
| **Chloride** | **265** | | 5.0 | 2.8 | mg/L | | | 09/21/20 20:54 | 10 |
| Sulfate | ND | | 20.0 | 3.5 | mg/L | | | 09/21/20 20:54 | 10 |
| Ferrous Iron | ND | HF | 0.10 | 0.075 | mg/L | | | 09/19/20 13:50 | 1 |
| Sulfide | ND | | 1.0 | 0.67 | mg/L | | | 09/22/20 16:35 | 1 |

Client: LaBella Associates DPC
Job ID: 480-175323-1
Project/Site: Former Emerson Street Landfill Project

## Client Sample ID: LAB-SBW-18-09162020 47
**Lab Sample ID: 480-175323-4**
**Date Collected: 09/16/20 13:25**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

### Method: RSK-175 - Dissolved Gases (GC)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethane | ND | | 7.5 | 1.5 | ug/L | | | 09/23/20 09:07 | 1 |
| Ethene | ND | | 7.0 | 1.5 | ug/L | | | 09/23/20 09:07 | 1 |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Nitrate | ND | H | 0.050 | 0.020 | mg/L as N | | | 09/18/20 14:18 | 1 |
| Nitrite | ND | H | 0.050 | 0.020 | mg/L as N | | | 09/18/20 14:17 | 1 |
| **Chloride** | **268** | | 5.0 | 2.8 | mg/L | | | 09/21/20 21:08 | 10 |
| Sulfate | ND | | 20.0 | 3.5 | mg/L | | | 09/21/20 21:08 | 10 |
| Ferrous Iron | ND | HF | 0.10 | 0.075 | mg/L | | | 09/19/20 13:50 | 1 |
| **Sulfide** | **0.80** | **J** | 1.0 | 0.67 | mg/L | | | 09/22/20 16:35 | 1 |

## Client Sample ID: LAB-SBW-17-09162020 42
**Lab Sample ID: 480-175323-5**
**Date Collected: 09/16/20 15:45**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

### Method: RSK-175 - Dissolved Gases (GC)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Ethane** | **23** | | 7.5 | 1.5 | ug/L | | | 09/23/20 09:26 | 1 |
| **Ethene** | **15** | | 7.0 | 1.5 | ug/L | | | 09/23/20 09:26 | 1 |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Nitrate | ND | | 0.050 | 0.020 | mg/L as N | | | 09/18/20 14:10 | 1 |
| Nitrite | ND | | 0.050 | 0.020 | mg/L as N | | | 09/18/20 14:10 | 1 |
| **Chloride** | **1030** | | 10.0 | 5.6 | mg/L | | | 09/23/20 19:31 | 20 |
| **Sulfate** | **101** | | 20.0 | 3.5 | mg/L | | | 09/21/20 21:23 | 10 |
| Ferrous Iron | ND | HF | 0.10 | 0.075 | mg/L | | | 09/19/20 13:50 | 1 |
| **Sulfide** | **0.80** | **J** | 1.0 | 0.67 | mg/L | | | 09/22/20 16:35 | 1 |

## Client Sample ID: LAB-SBW-17-09162020 52
**Lab Sample ID: 480-175323-6**
**Date Collected: 09/16/20 17:00**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

### Method: RSK-175 - Dissolved Gases (GC)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Ethane** | **5.1** | **J** | 7.5 | 1.5 | ug/L | | | 09/23/20 09:45 | 1 |
| Ethene | ND | | 7.0 | 1.5 | ug/L | | | 09/23/20 09:45 | 1 |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Nitrate | ND | | 0.050 | 0.020 | mg/L as N | | | 09/18/20 14:13 | 1 |
| Nitrite | ND | | 0.050 | 0.020 | mg/L as N | | | 09/18/20 14:13 | 1 |
| **Chloride** | **1130** | | 10.0 | 5.6 | mg/L | | | 09/23/20 19:46 | 20 |
| **Sulfate** | **112** | | 20.0 | 3.5 | mg/L | | | 09/21/20 21:37 | 10 |
| Ferrous Iron | ND | HF | 0.10 | 0.075 | mg/L | | | 09/19/20 13:50 | 1 |
| Sulfide | ND | | 1.0 | 0.67 | mg/L | | | 09/22/20 16:35 | 1 |

**Client Sample ID: LAB-SBW-16-09172020 33**
**Lab Sample ID: 480-175323-7**
**Date Collected: 09/17/20 09:20**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

## Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **1,1,1-Trichloroethane** | **380** | | 40 | 33 | ug/L | | | 09/21/20 14:25 | 40 |
| 1,1,2,2-Tetrachloroethane | ND | | 40 | 8.4 | ug/L | | | 09/21/20 14:25 | 40 |
| 1,1,2-Trichloroethane | ND | | 40 | 9.2 | ug/L | | | 09/21/20 14:25 | 40 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **460** | | 40 | 12 | ug/L | | | 09/21/20 14:25 | 40 |
| **1,1-Dichloroethane** | **750** | | 40 | 15 | ug/L | | | 09/21/20 14:25 | 40 |
| **1,1-Dichloroethene** | **21** | **J** | 40 | 12 | ug/L | | | 09/21/20 14:25 | 40 |
| 1,2,4-Trichlorobenzene | ND | | 40 | 16 | ug/L | | | 09/21/20 14:25 | 40 |
| 1,2-Dibromo-3-Chloropropane | ND | | 40 | 16 | ug/L | | | 09/21/20 14:25 | 40 |
| 1,2-Dichlorobenzene | ND | | 40 | 32 | ug/L | | | 09/21/20 14:25 | 40 |
| 1,2-Dichloroethane | ND | | 40 | 8.4 | ug/L | | | 09/21/20 14:25 | 40 |
| 1,2-Dichloropropane | ND | | 40 | 29 | ug/L | | | 09/21/20 14:25 | 40 |
| 1,3-Dichlorobenzene | ND | | 40 | 31 | ug/L | | | 09/21/20 14:25 | 40 |
| 1,4-Dichlorobenzene | ND | | 40 | 34 | ug/L | | | 09/21/20 14:25 | 40 |
| 2-Butanone (MEK) | ND | | 400 | 53 | ug/L | | | 09/21/20 14:25 | 40 |
| 2-Hexanone | ND | | 200 | 50 | ug/L | | | 09/21/20 14:25 | 40 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 200 | 84 | ug/L | | | 09/21/20 14:25 | 40 |
| Acetone | ND | | 400 | 120 | ug/L | | | 09/21/20 14:25 | 40 |
| **Benzene** | **22** | **J** | 40 | 16 | ug/L | | | 09/21/20 14:25 | 40 |
| Bromodichloromethane | ND | | 40 | 16 | ug/L | | | 09/21/20 14:25 | 40 |
| Bromoform | ND | | 40 | 10 | ug/L | | | 09/21/20 14:25 | 40 |
| Bromomethane | ND | | 40 | 28 | ug/L | | | 09/21/20 14:25 | 40 |
| Carbon disulfide | ND | | 40 | 7.6 | ug/L | | | 09/21/20 14:25 | 40 |
| Carbon tetrachloride | ND | | 40 | 11 | ug/L | | | 09/21/20 14:25 | 40 |
| Chlorobenzene | ND | | 40 | 30 | ug/L | | | 09/21/20 14:25 | 40 |
| Dibromochloromethane | ND | | 40 | 13 | ug/L | | | 09/21/20 14:25 | 40 |
| **Chloroethane** | **44** | | 40 | 13 | ug/L | | | 09/21/20 14:25 | 40 |
| Chloroform | ND | | 40 | 14 | ug/L | | | 09/21/20 14:25 | 40 |
| Chloromethane | ND | | 40 | 14 | ug/L | | | 09/21/20 14:25 | 40 |
| **cis-1,2-Dichloroethene** | **1800** | | 40 | 32 | ug/L | | | 09/21/20 14:25 | 40 |
| cis-1,3-Dichloropropene | ND | | 40 | 14 | ug/L | | | 09/21/20 14:25 | 40 |
| Cyclohexane | ND | | 40 | 7.2 | ug/L | | | 09/21/20 14:25 | 40 |
| Dichlorodifluoromethane | ND | | 40 | 27 | ug/L | | | 09/21/20 14:25 | 40 |
| Ethylbenzene | ND | | 40 | 30 | ug/L | | | 09/21/20 14:25 | 40 |
| 1,2-Dibromoethane | ND | | 40 | 29 | ug/L | | | 09/21/20 14:25 | 40 |
| Isopropylbenzene | ND | | 40 | 32 | ug/L | | | 09/21/20 14:25 | 40 |
| Methyl acetate | ND | | 100 | 52 | ug/L | | | 09/21/20 14:25 | 40 |
| **Methyl tert-butyl ether** | **24** | **J** | 40 | 6.4 | ug/L | | | 09/21/20 14:25 | 40 |
| Methylcyclohexane | ND | | 40 | 6.4 | ug/L | | | 09/21/20 14:25 | 40 |
| Methylene Chloride | ND | | 40 | 18 | ug/L | | | 09/21/20 14:25 | 40 |
| Styrene | ND | | 40 | 29 | ug/L | | | 09/21/20 14:25 | 40 |
| Tetrachloroethene | ND | | 40 | 14 | ug/L | | | 09/21/20 14:25 | 40 |
| **Toluene** | **120** | | 40 | 20 | ug/L | | | 09/21/20 14:25 | 40 |
| trans-1,2-Dichloroethene | ND | | 40 | 36 | ug/L | | | 09/21/20 14:25 | 40 |
| trans-1,3-Dichloropropene | ND | | 40 | 15 | ug/L | | | 09/21/20 14:25 | 40 |
| Trichloroethene | ND | | 40 | 18 | ug/L | | | 09/21/20 14:25 | 40 |
| Trichlorofluoromethane | ND | | 40 | 35 | ug/L | | | 09/21/20 14:25 | 40 |
| **Vinyl chloride** | **950** | | 40 | 36 | ug/L | | | 09/21/20 14:25 | 40 |
| **Xylenes, Total** | **50** | **J** | 80 | 26 | ug/L | | | 09/21/20 14:25 | 40 |

## Client Sample ID: LAB-SBW-16-09172020 33
**Lab Sample ID: 480-175323-7**

**Date Collected: 09/17/20 09:20**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Tentatively Identified Compound | Est. Result | Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tentatively Identified Compound | None | | ug/L | | | | | 09/21/20 14:25 | 40 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 99 | | 80 - 120 | | 09/21/20 14:25 | 40 |
| 1,2-Dichloroethane-d4 (Surr) | 109 | | 77 - 120 | | 09/21/20 14:25 | 40 |
| 4-Bromofluorobenzene (Surr) | 98 | | 73 - 120 | | 09/21/20 14:25 | 40 |
| Dibromofluoromethane (Surr) | 101 | | 75 - 123 | | 09/21/20 14:25 | 40 |

## Client Sample ID: LAB-SBW-16-09172020 44
**Lab Sample ID: 480-175323-8**

**Date Collected: 09/17/20 11:15**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **1,1,1-Trichloroethane** | **10** | | 4.0 | 3.3 | ug/L | | | 09/21/20 14:49 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/21/20 14:49 | 4 |
| 1,1,2-Trichloroethane | ND | | 4.0 | 0.92 | ug/L | | | 09/21/20 14:49 | 4 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **27** | | 4.0 | 1.2 | ug/L | | | 09/21/20 14:49 | 4 |
| **1,1-Dichloroethane** | **34** | | 4.0 | 1.5 | ug/L | | | 09/21/20 14:49 | 4 |
| 1,1-Dichloroethene | ND | | 4.0 | 1.2 | ug/L | | | 09/21/20 14:49 | 4 |
| 1,2,4-Trichlorobenzene | ND | | 4.0 | 1.6 | ug/L | | | 09/21/20 14:49 | 4 |
| 1,2-Dibromo-3-Chloropropane | ND | | 4.0 | 1.6 | ug/L | | | 09/21/20 14:49 | 4 |
| 1,2-Dichlorobenzene | ND | | 4.0 | 3.2 | ug/L | | | 09/21/20 14:49 | 4 |
| 1,2-Dichloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/21/20 14:49 | 4 |
| 1,2-Dichloropropane | ND | | 4.0 | 2.9 | ug/L | | | 09/21/20 14:49 | 4 |
| 1,3-Dichlorobenzene | ND | | 4.0 | 3.1 | ug/L | | | 09/21/20 14:49 | 4 |
| 1,4-Dichlorobenzene | ND | | 4.0 | 3.4 | ug/L | | | 09/21/20 14:49 | 4 |
| 2-Butanone (MEK) | ND | | 40 | 5.3 | ug/L | | | 09/21/20 14:49 | 4 |
| 2-Hexanone | ND | | 20 | 5.0 | ug/L | | | 09/21/20 14:49 | 4 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 20 | 8.4 | ug/L | | | 09/21/20 14:49 | 4 |
| Acetone | ND | | 40 | 12 | ug/L | | | 09/21/20 14:49 | 4 |
| Benzene | ND | | 4.0 | 1.6 | ug/L | | | 09/21/20 14:49 | 4 |
| Bromodichloromethane | ND | | 4.0 | 1.6 | ug/L | | | 09/21/20 14:49 | 4 |
| Bromoform | ND | | 4.0 | 1.0 | ug/L | | | 09/21/20 14:49 | 4 |
| Bromomethane | ND | | 4.0 | 2.8 | ug/L | | | 09/21/20 14:49 | 4 |
| Carbon disulfide | ND | | 4.0 | 0.76 | ug/L | | | 09/21/20 14:49 | 4 |
| Carbon tetrachloride | ND | | 4.0 | 1.1 | ug/L | | | 09/21/20 14:49 | 4 |
| Chlorobenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/21/20 14:49 | 4 |
| Dibromochloromethane | ND | | 4.0 | 1.3 | ug/L | | | 09/21/20 14:49 | 4 |
| **Chloroethane** | **3.7** | **J** | 4.0 | 1.3 | ug/L | | | 09/21/20 14:49 | 4 |
| Chloroform | ND | | 4.0 | 1.4 | ug/L | | | 09/21/20 14:49 | 4 |
| Chloromethane | ND | | 4.0 | 1.4 | ug/L | | | 09/21/20 14:49 | 4 |
| **cis-1,2-Dichloroethene** | **28** | | 4.0 | 3.2 | ug/L | | | 09/21/20 14:49 | 4 |
| cis-1,3-Dichloropropene | ND | | 4.0 | 1.4 | ug/L | | | 09/21/20 14:49 | 4 |
| Cyclohexane | ND | | 4.0 | 0.72 | ug/L | | | 09/21/20 14:49 | 4 |
| Dichlorodifluoromethane | ND | | 4.0 | 2.7 | ug/L | | | 09/21/20 14:49 | 4 |
| Ethylbenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/21/20 14:49 | 4 |
| 1,2-Dibromoethane | ND | | 4.0 | 2.9 | ug/L | | | 09/21/20 14:49 | 4 |
| Isopropylbenzene | ND | | 4.0 | 3.2 | ug/L | | | 09/21/20 14:49 | 4 |
| Methyl acetate | ND | | 10 | 5.2 | ug/L | | | 09/21/20 14:49 | 4 |

## Client Sample ID: LAB-SBW-16-09172020 44
**Lab Sample ID: 480-175323-8**

**Date Collected: 09/17/20 11:15**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | ND | | 4.0 | 0.64 | ug/L | | | 09/21/20 14:49 | 4 |
| Methylcyclohexane | ND | | 4.0 | 0.64 | ug/L | | | 09/21/20 14:49 | 4 |
| Methylene Chloride | ND | | 4.0 | 1.8 | ug/L | | | 09/21/20 14:49 | 4 |
| Styrene | ND | | 4.0 | 2.9 | ug/L | | | 09/21/20 14:49 | 4 |
| Tetrachloroethene | ND | | 4.0 | 1.4 | ug/L | | | 09/21/20 14:49 | 4 |
| **Toluene** | **8.8** | | 4.0 | 2.0 | ug/L | | | 09/21/20 14:49 | 4 |
| trans-1,2-Dichloroethene | ND | | 4.0 | 3.6 | ug/L | | | 09/21/20 14:49 | 4 |
| trans-1,3-Dichloropropene | ND | | 4.0 | 1.5 | ug/L | | | 09/21/20 14:49 | 4 |
| Trichloroethene | ND | | 4.0 | 1.8 | ug/L | | | 09/21/20 14:49 | 4 |
| Trichlorofluoromethane | ND | | 4.0 | 3.5 | ug/L | | | 09/21/20 14:49 | 4 |
| **Vinyl chloride** | **14** | | 4.0 | 3.6 | ug/L | | | 09/21/20 14:49 | 4 |
| **Xylenes, Total** | **7.2** | **J** | 8.0 | 2.6 | ug/L | | | 09/21/20 14:49 | 4 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Tentatively Identified Compound* | *None* | | *ug/L* | | | | | *09/21/20 14:49* | *4* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *103* | | *80 - 120* | | *09/21/20 14:49* | *4* |
| *1,2-Dichloroethane-d4 (Surr)* | *113* | | *77 - 120* | | *09/21/20 14:49* | *4* |
| *4-Bromofluorobenzene (Surr)* | *104* | | *73 - 120* | | *09/21/20 14:49* | *4* |
| *Dibromofluoromethane (Surr)* | *107* | | *75 - 123* | | *09/21/20 14:49* | *4* |

## Client Sample ID: LAB-SBW-15-09172020 28
**Lab Sample ID: 480-175323-9**

**Date Collected: 09/17/20 09:30**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **1,1,1-Trichloroethane** | **9.7** | **J** | 10 | 8.2 | ug/L | | | 09/21/20 15:13 | 10 |
| 1,1,2,2-Tetrachloroethane | ND | | 10 | 2.1 | ug/L | | | 09/21/20 15:13 | 10 |
| 1,1,2-Trichloroethane | ND | | 10 | 2.3 | ug/L | | | 09/21/20 15:13 | 10 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 10 | 3.1 | ug/L | | | 09/21/20 15:13 | 10 |
| **1,1-Dichloroethane** | **40** | | 10 | 3.8 | ug/L | | | 09/21/20 15:13 | 10 |
| 1,1-Dichloroethene | ND | | 10 | 2.9 | ug/L | | | 09/21/20 15:13 | 10 |
| 1,2,4-Trichlorobenzene | ND | | 10 | 4.1 | ug/L | | | 09/21/20 15:13 | 10 |
| 1,2-Dibromo-3-Chloropropane | ND | | 10 | 3.9 | ug/L | | | 09/21/20 15:13 | 10 |
| 1,2-Dichlorobenzene | ND | | 10 | 7.9 | ug/L | | | 09/21/20 15:13 | 10 |
| 1,2-Dichloroethane | ND | | 10 | 2.1 | ug/L | | | 09/21/20 15:13 | 10 |
| 1,2-Dichloropropane | ND | | 10 | 7.2 | ug/L | | | 09/21/20 15:13 | 10 |
| 1,3-Dichlorobenzene | ND | | 10 | 7.8 | ug/L | | | 09/21/20 15:13 | 10 |
| 1,4-Dichlorobenzene | ND | | 10 | 8.4 | ug/L | | | 09/21/20 15:13 | 10 |
| 2-Butanone (MEK) | ND | | 100 | 13 | ug/L | | | 09/21/20 15:13 | 10 |
| 2-Hexanone | ND | | 50 | 12 | ug/L | | | 09/21/20 15:13 | 10 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 50 | 21 | ug/L | | | 09/21/20 15:13 | 10 |
| Acetone | ND | | 100 | 30 | ug/L | | | 09/21/20 15:13 | 10 |
| **Benzene** | **35** | | 10 | 4.1 | ug/L | | | 09/21/20 15:13 | 10 |
| Bromodichloromethane | ND | | 10 | 3.9 | ug/L | | | 09/21/20 15:13 | 10 |
| Bromoform | ND | | 10 | 2.6 | ug/L | | | 09/21/20 15:13 | 10 |
| Bromomethane | ND | | 10 | 6.9 | ug/L | | | 09/21/20 15:13 | 10 |
| Carbon disulfide | ND | | 10 | 1.9 | ug/L | | | 09/21/20 15:13 | 10 |

## Client Sample ID: LAB-SBW-15-09172020 28
**Lab Sample ID: 480-175323-9**
**Date Collected: 09/17/20 09:30**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Carbon tetrachloride | ND | | 10 | 2.7 | ug/L | | | 09/21/20 15:13 | 10 |
| Chlorobenzene | ND | | 10 | 7.5 | ug/L | | | 09/21/20 15:13 | 10 |
| Dibromochloromethane | ND | | 10 | 3.2 | ug/L | | | 09/21/20 15:13 | 10 |
| **Chloroethane** | **260** | | 10 | 3.2 | ug/L | | | 09/21/20 15:13 | 10 |
| Chloroform | ND | | 10 | 3.4 | ug/L | | | 09/21/20 15:13 | 10 |
| Chloromethane | ND | | 10 | 3.5 | ug/L | | | 09/21/20 15:13 | 10 |
| **cis-1,2-Dichloroethene** | **53** | | 10 | 8.1 | ug/L | | | 09/21/20 15:13 | 10 |
| cis-1,3-Dichloropropene | ND | | 10 | 3.6 | ug/L | | | 09/21/20 15:13 | 10 |
| Cyclohexane | ND | | 10 | 1.8 | ug/L | | | 09/21/20 15:13 | 10 |
| Dichlorodifluoromethane | ND | | 10 | 6.8 | ug/L | | | 09/21/20 15:13 | 10 |
| Ethylbenzene | ND | | 10 | 7.4 | ug/L | | | 09/21/20 15:13 | 10 |
| 1,2-Dibromoethane | ND | | 10 | 7.3 | ug/L | | | 09/21/20 15:13 | 10 |
| Isopropylbenzene | ND | | 10 | 7.9 | ug/L | | | 09/21/20 15:13 | 10 |
| Methyl acetate | ND | | 25 | 13 | ug/L | | | 09/21/20 15:13 | 10 |
| **Methyl tert-butyl ether** | **6.4** | **J** | 10 | 1.6 | ug/L | | | 09/21/20 15:13 | 10 |
| **Methylcyclohexane** | **9.0** | **J** | 10 | 1.6 | ug/L | | | 09/21/20 15:13 | 10 |
| Methylene Chloride | ND | | 10 | 4.4 | ug/L | | | 09/21/20 15:13 | 10 |
| Styrene | ND | | 10 | 7.3 | ug/L | | | 09/21/20 15:13 | 10 |
| Tetrachloroethene | ND | | 10 | 3.6 | ug/L | | | 09/21/20 15:13 | 10 |
| Toluene | ND | | 10 | 5.1 | ug/L | | | 09/21/20 15:13 | 10 |
| trans-1,2-Dichloroethene | ND | | 10 | 9.0 | ug/L | | | 09/21/20 15:13 | 10 |
| trans-1,3-Dichloropropene | ND | | 10 | 3.7 | ug/L | | | 09/21/20 15:13 | 10 |
| Trichloroethene | ND | | 10 | 4.6 | ug/L | | | 09/21/20 15:13 | 10 |
| Trichlorofluoromethane | ND | | 10 | 8.8 | ug/L | | | 09/21/20 15:13 | 10 |
| **Vinyl chloride** | **38** | | 10 | 9.0 | ug/L | | | 09/21/20 15:13 | 10 |
| Xylenes, Total | ND | | 20 | 6.6 | ug/L | | | 09/21/20 15:13 | 10 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Tentatively Identified Compound* | *None* | | *ug/L* | | | | | *09/21/20 15:13* | *10* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *80 - 120* | | *09/21/20 15:13* | *10* |
| *1,2-Dichloroethane-d4 (Surr)* | *110* | | *77 - 120* | | *09/21/20 15:13* | *10* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *73 - 120* | | *09/21/20 15:13* | *10* |
| *Dibromofluoromethane (Surr)* | *104* | | *75 - 123* | | *09/21/20 15:13* | *10* |

## Client Sample ID: LAB-SBW-15-09172020 40
**Lab Sample ID: 480-175323-10**
**Date Collected: 09/17/20 11:10**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **1,1,1-Trichloroethane** | **14** | | 10 | 8.2 | ug/L | | | 09/22/20 16:15 | 10 |
| 1,1,2,2-Tetrachloroethane | ND | | 10 | 2.1 | ug/L | | | 09/22/20 16:15 | 10 |
| 1,1,2-Trichloroethane | ND | | 10 | 2.3 | ug/L | | | 09/22/20 16:15 | 10 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **8.5** | **J** | 10 | 3.1 | ug/L | | | 09/22/20 16:15 | 10 |
| **1,1-Dichloroethane** | **58** | | 10 | 3.8 | ug/L | | | 09/22/20 16:15 | 10 |
| 1,1-Dichloroethene | ND | | 10 | 2.9 | ug/L | | | 09/22/20 16:15 | 10 |
| 1,2,4-Trichlorobenzene | ND | | 10 | 4.1 | ug/L | | | 09/22/20 16:15 | 10 |
| 1,2-Dibromo-3-Chloropropane | ND | | 10 | 3.9 | ug/L | | | 09/22/20 16:15 | 10 |

## Client Sample ID: LAB-SBW-15-09172020 40
**Lab Sample ID: 480-175323-10**

**Date Collected: 09/17/20 11:10**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichlorobenzene | ND | | 10 | 7.9 | ug/L | | | 09/22/20 16:15 | 10 |
| 1,2-Dichloroethane | ND | | 10 | 2.1 | ug/L | | | 09/22/20 16:15 | 10 |
| 1,2-Dichloropropane | ND | | 10 | 7.2 | ug/L | | | 09/22/20 16:15 | 10 |
| 1,3-Dichlorobenzene | ND | | 10 | 7.8 | ug/L | | | 09/22/20 16:15 | 10 |
| 1,4-Dichlorobenzene | ND | | 10 | 8.4 | ug/L | | | 09/22/20 16:15 | 10 |
| 2-Butanone (MEK) | ND | | 100 | 13 | ug/L | | | 09/22/20 16:15 | 10 |
| 2-Hexanone | ND | | 50 | 12 | ug/L | | | 09/22/20 16:15 | 10 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 50 | 21 | ug/L | | | 09/22/20 16:15 | 10 |
| Acetone | ND | | 100 | 30 | ug/L | | | 09/22/20 16:15 | 10 |
| **Benzene** | **45** | | 10 | 4.1 | ug/L | | | 09/22/20 16:15 | 10 |
| Bromodichloromethane | ND | | 10 | 3.9 | ug/L | | | 09/22/20 16:15 | 10 |
| Bromoform | ND | | 10 | 2.6 | ug/L | | | 09/22/20 16:15 | 10 |
| Bromomethane | ND | | 10 | 6.9 | ug/L | | | 09/22/20 16:15 | 10 |
| Carbon disulfide | ND | | 10 | 1.9 | ug/L | | | 09/22/20 16:15 | 10 |
| Carbon tetrachloride | ND | | 10 | 2.7 | ug/L | | | 09/22/20 16:15 | 10 |
| Chlorobenzene | ND | | 10 | 7.5 | ug/L | | | 09/22/20 16:15 | 10 |
| Dibromochloromethane | ND | | 10 | 3.2 | ug/L | | | 09/22/20 16:15 | 10 |
| **Chloroethane** | **160** | | 10 | 3.2 | ug/L | | | 09/22/20 16:15 | 10 |
| Chloroform | ND | | 10 | 3.4 | ug/L | | | 09/22/20 16:15 | 10 |
| Chloromethane | ND | | 10 | 3.5 | ug/L | | | 09/22/20 16:15 | 10 |
| **cis-1,2-Dichloroethene** | **71** | | 10 | 8.1 | ug/L | | | 09/22/20 16:15 | 10 |
| cis-1,3-Dichloropropene | ND | | 10 | 3.6 | ug/L | | | 09/22/20 16:15 | 10 |
| Cyclohexane | ND | | 10 | 1.8 | ug/L | | | 09/22/20 16:15 | 10 |
| Dichlorodifluoromethane | ND | | 10 | 6.8 | ug/L | | | 09/22/20 16:15 | 10 |
| Ethylbenzene | ND | | 10 | 7.4 | ug/L | | | 09/22/20 16:15 | 10 |
| 1,2-Dibromoethane | ND | | 10 | 7.3 | ug/L | | | 09/22/20 16:15 | 10 |
| Isopropylbenzene | ND | | 10 | 7.9 | ug/L | | | 09/22/20 16:15 | 10 |
| Methyl acetate | ND | | 25 | 13 | ug/L | | | 09/22/20 16:15 | 10 |
| **Methyl tert-butyl ether** | **7.5** | **J** | 10 | 1.6 | ug/L | | | 09/22/20 16:15 | 10 |
| **Methylcyclohexane** | **13** | | 10 | 1.6 | ug/L | | | 09/22/20 16:15 | 10 |
| Methylene Chloride | ND | | 10 | 4.4 | ug/L | | | 09/22/20 16:15 | 10 |
| Styrene | ND | | 10 | 7.3 | ug/L | | | 09/22/20 16:15 | 10 |
| Tetrachloroethene | ND | | 10 | 3.6 | ug/L | | | 09/22/20 16:15 | 10 |
| **Toluene** | **7.8** | **J** | 10 | 5.1 | ug/L | | | 09/22/20 16:15 | 10 |
| trans-1,2-Dichloroethene | ND | | 10 | 9.0 | ug/L | | | 09/22/20 16:15 | 10 |
| trans-1,3-Dichloropropene | ND | | 10 | 3.7 | ug/L | | | 09/22/20 16:15 | 10 |
| Trichloroethene | ND | | 10 | 4.6 | ug/L | | | 09/22/20 16:15 | 10 |
| Trichlorofluoromethane | ND | | 10 | 8.8 | ug/L | | | 09/22/20 16:15 | 10 |
| **Vinyl chloride** | **61** | | 10 | 9.0 | ug/L | | | 09/22/20 16:15 | 10 |
| **Xylenes, Total** | **7.7** | **J** | 20 | 6.6 | ug/L | | | 09/22/20 16:15 | 10 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Tentatively Identified Compound* | *None* | | *ug/L* | | | | | *09/22/20 16:15* | *10* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *80 - 120* | | *09/22/20 16:15* | *10* |
| *1,2-Dichloroethane-d4 (Surr)* | *103* | | *77 - 120* | | *09/22/20 16:15* | *10* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *73 - 120* | | *09/22/20 16:15* | *10* |
| *Dibromofluoromethane (Surr)* | *103* | | *75 - 123* | | *09/22/20 16:15* | *10* |

**Client Sample ID: BD-GW-09172020**
**Lab Sample ID: 480-175323-11**
**Date Collected: 09/17/20 00:00**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

## Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **1,1,1-Trichloroethane** | **11** | | 5.0 | 4.1 | ug/L | | | 09/22/20 16:39 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | 5.0 | 1.1 | ug/L | | | 09/22/20 16:39 | 5 |
| 1,1,2-Trichloroethane | ND | | 5.0 | 1.2 | ug/L | | | 09/22/20 16:39 | 5 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **5.9** | | 5.0 | 1.6 | ug/L | | | 09/22/20 16:39 | 5 |
| **1,1-Dichloroethane** | **46** | | 5.0 | 1.9 | ug/L | | | 09/22/20 16:39 | 5 |
| 1,1-Dichloroethene | ND | | 5.0 | 1.5 | ug/L | | | 09/22/20 16:39 | 5 |
| 1,2,4-Trichlorobenzene | ND | | 5.0 | 2.1 | ug/L | | | 09/22/20 16:39 | 5 |
| 1,2-Dibromo-3-Chloropropane | ND | | 5.0 | 2.0 | ug/L | | | 09/22/20 16:39 | 5 |
| 1,2-Dichlorobenzene | ND | | 5.0 | 4.0 | ug/L | | | 09/22/20 16:39 | 5 |
| 1,2-Dichloroethane | ND | | 5.0 | 1.1 | ug/L | | | 09/22/20 16:39 | 5 |
| 1,2-Dichloropropane | ND | | 5.0 | 3.6 | ug/L | | | 09/22/20 16:39 | 5 |
| 1,3-Dichlorobenzene | ND | | 5.0 | 3.9 | ug/L | | | 09/22/20 16:39 | 5 |
| 1,4-Dichlorobenzene | ND | | 5.0 | 4.2 | ug/L | | | 09/22/20 16:39 | 5 |
| 2-Butanone (MEK) | ND | | 50 | 6.6 | ug/L | | | 09/22/20 16:39 | 5 |
| 2-Hexanone | ND | | 25 | 6.2 | ug/L | | | 09/22/20 16:39 | 5 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 25 | 11 | ug/L | | | 09/22/20 16:39 | 5 |
| Acetone | ND | | 50 | 15 | ug/L | | | 09/22/20 16:39 | 5 |
| **Benzene** | **45** | | 5.0 | 2.1 | ug/L | | | 09/22/20 16:39 | 5 |
| Bromodichloromethane | ND | | 5.0 | 2.0 | ug/L | | | 09/22/20 16:39 | 5 |
| Bromoform | ND | | 5.0 | 1.3 | ug/L | | | 09/22/20 16:39 | 5 |
| Bromomethane | ND | | 5.0 | 3.5 | ug/L | | | 09/22/20 16:39 | 5 |
| Carbon disulfide | ND | | 5.0 | 0.95 | ug/L | | | 09/22/20 16:39 | 5 |
| Carbon tetrachloride | ND | | 5.0 | 1.4 | ug/L | | | 09/22/20 16:39 | 5 |
| Chlorobenzene | ND | | 5.0 | 3.8 | ug/L | | | 09/22/20 16:39 | 5 |
| Dibromochloromethane | ND | | 5.0 | 1.6 | ug/L | | | 09/22/20 16:39 | 5 |
| **Chloroethane** | **350** | | 5.0 | 1.6 | ug/L | | | 09/22/20 16:39 | 5 |
| Chloroform | ND | | 5.0 | 1.7 | ug/L | | | 09/22/20 16:39 | 5 |
| Chloromethane | ND | | 5.0 | 1.8 | ug/L | | | 09/22/20 16:39 | 5 |
| **cis-1,2-Dichloroethene** | **58** | | 5.0 | 4.1 | ug/L | | | 09/22/20 16:39 | 5 |
| cis-1,3-Dichloropropene | ND | | 5.0 | 1.8 | ug/L | | | 09/22/20 16:39 | 5 |
| Cyclohexane | ND | | 5.0 | 0.90 | ug/L | | | 09/22/20 16:39 | 5 |
| Dichlorodifluoromethane | ND | | 5.0 | 3.4 | ug/L | | | 09/22/20 16:39 | 5 |
| Ethylbenzene | ND | | 5.0 | 3.7 | ug/L | | | 09/22/20 16:39 | 5 |
| 1,2-Dibromoethane | ND | | 5.0 | 3.7 | ug/L | | | 09/22/20 16:39 | 5 |
| **Isopropylbenzene** | **4.6** | **J** | 5.0 | 4.0 | ug/L | | | 09/22/20 16:39 | 5 |
| Methyl acetate | ND | | 13 | 6.5 | ug/L | | | 09/22/20 16:39 | 5 |
| **Methyl tert-butyl ether** | **7.1** | | 5.0 | 0.80 | ug/L | | | 09/22/20 16:39 | 5 |
| **Methylcyclohexane** | **18** | | 5.0 | 0.80 | ug/L | | | 09/22/20 16:39 | 5 |
| **Methylene Chloride** | **2.6** | **J** | 5.0 | 2.2 | ug/L | | | 09/22/20 16:39 | 5 |
| Styrene | ND | | 5.0 | 3.7 | ug/L | | | 09/22/20 16:39 | 5 |
| Tetrachloroethene | ND | | 5.0 | 1.8 | ug/L | | | 09/22/20 16:39 | 5 |
| **Toluene** | **6.2** | | 5.0 | 2.6 | ug/L | | | 09/22/20 16:39 | 5 |
| trans-1,2-Dichloroethene | ND | | 5.0 | 4.5 | ug/L | | | 09/22/20 16:39 | 5 |
| trans-1,3-Dichloropropene | ND | | 5.0 | 1.9 | ug/L | | | 09/22/20 16:39 | 5 |
| Trichloroethene | ND | | 5.0 | 2.3 | ug/L | | | 09/22/20 16:39 | 5 |
| Trichlorofluoromethane | ND | | 5.0 | 4.4 | ug/L | | | 09/22/20 16:39 | 5 |
| **Vinyl chloride** | **46** | | 5.0 | 4.5 | ug/L | | | 09/22/20 16:39 | 5 |
| **Xylenes, Total** | **6.0** | **J** | 10 | 3.3 | ug/L | | | 09/22/20 16:39 | 5 |

## Client Sample ID: BD-GW-09172020
**Lab Sample ID: 480-175323-11**

**Date Collected: 09/17/20 00:00**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Tentatively Identified Compound | Est. Result | Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethene, ethyloxy- | 14 | T J N | ug/L | | 2.16 | 1000221-95-9 | | 09/22/20 16:39 | 5 |
| Unknown | 14 | T J | ug/L | | 7.55 | | | 09/22/20 16:39 | 5 |
| Unknown | 18 | T J | ug/L | | 8.96 | | | 09/22/20 16:39 | 5 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 99 | | 80 - 120 | | 09/22/20 16:39 | 5 |
| 1,2-Dichloroethane-d4 (Surr) | 104 | | 77 - 120 | | 09/22/20 16:39 | 5 |
| 4-Bromofluorobenzene (Surr) | 98 | | 73 - 120 | | 09/22/20 16:39 | 5 |
| Dibromofluoromethane (Surr) | 103 | | 75 - 123 | | 09/22/20 16:39 | 5 |

## Client Sample ID: TRIP BLANK-09172020
**Lab Sample ID: 480-175323-12**

**Date Collected: 09/17/20 08:00**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.0 | 0.82 | ug/L | | | 09/22/20 17:03 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/22/20 17:03 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | 0.23 | ug/L | | | 09/22/20 17:03 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.0 | 0.31 | ug/L | | | 09/22/20 17:03 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | 0.38 | ug/L | | | 09/22/20 17:03 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | 0.29 | ug/L | | | 09/22/20 17:03 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.41 | ug/L | | | 09/22/20 17:03 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 1.0 | 0.39 | ug/L | | | 09/22/20 17:03 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/22/20 17:03 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/22/20 17:03 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | 0.72 | ug/L | | | 09/22/20 17:03 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | 0.78 | ug/L | | | 09/22/20 17:03 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | 0.84 | ug/L | | | 09/22/20 17:03 | 1 |
| 2-Butanone (MEK) | ND | | 10 | 1.3 | ug/L | | | 09/22/20 17:03 | 1 |
| 2-Hexanone | ND | | 5.0 | 1.2 | ug/L | | | 09/22/20 17:03 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | 2.1 | ug/L | | | 09/22/20 17:03 | 1 |
| Acetone | ND | | 10 | 3.0 | ug/L | | | 09/22/20 17:03 | 1 |
| Benzene | ND | | 1.0 | 0.41 | ug/L | | | 09/22/20 17:03 | 1 |
| Bromodichloromethane | ND | | 1.0 | 0.39 | ug/L | | | 09/22/20 17:03 | 1 |
| Bromoform | ND | | 1.0 | 0.26 | ug/L | | | 09/22/20 17:03 | 1 |
| Bromomethane | ND | | 1.0 | 0.69 | ug/L | | | 09/22/20 17:03 | 1 |
| Carbon disulfide | ND | | 1.0 | 0.19 | ug/L | | | 09/22/20 17:03 | 1 |
| Carbon tetrachloride | ND | | 1.0 | 0.27 | ug/L | | | 09/22/20 17:03 | 1 |
| Chlorobenzene | ND | | 1.0 | 0.75 | ug/L | | | 09/22/20 17:03 | 1 |
| Dibromochloromethane | ND | | 1.0 | 0.32 | ug/L | | | 09/22/20 17:03 | 1 |
| Chloroethane | ND | | 1.0 | 0.32 | ug/L | | | 09/22/20 17:03 | 1 |
| Chloroform | ND | | 1.0 | 0.34 | ug/L | | | 09/22/20 17:03 | 1 |
| Chloromethane | ND | | 1.0 | 0.35 | ug/L | | | 09/22/20 17:03 | 1 |
| cis-1,2-Dichloroethene | ND | | 1.0 | 0.81 | ug/L | | | 09/22/20 17:03 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | 0.36 | ug/L | | | 09/22/20 17:03 | 1 |
| Cyclohexane | ND | | 1.0 | 0.18 | ug/L | | | 09/22/20 17:03 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | 0.68 | ug/L | | | 09/22/20 17:03 | 1 |
| Ethylbenzene | ND | | 1.0 | 0.74 | ug/L | | | 09/22/20 17:03 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | 0.73 | ug/L | | | 09/22/20 17:03 | 1 |

Client: LaBella Associates DPC
Job ID: 480-175323-1
Project/Site: Former Emerson Street Landfill Project

**Client Sample ID: TRIP BLANK-09172020**
**Lab Sample ID: 480-175323-12**
**Date Collected: 09/17/20 08:00**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Isopropylbenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/22/20 17:03 | 1 |
| Methyl acetate | ND | | 2.5 | 1.3 | ug/L | | | 09/22/20 17:03 | 1 |
| Methyl tert-butyl ether | ND | | 1.0 | 0.16 | ug/L | | | 09/22/20 17:03 | 1 |
| Methylcyclohexane | ND | | 1.0 | 0.16 | ug/L | | | 09/22/20 17:03 | 1 |
| Methylene Chloride | ND | | 1.0 | 0.44 | ug/L | | | 09/22/20 17:03 | 1 |
| Styrene | ND | | 1.0 | 0.73 | ug/L | | | 09/22/20 17:03 | 1 |
| Tetrachloroethene | ND | | 1.0 | 0.36 | ug/L | | | 09/22/20 17:03 | 1 |
| Toluene | ND | | 1.0 | 0.51 | ug/L | | | 09/22/20 17:03 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | 0.90 | ug/L | | | 09/22/20 17:03 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | 0.37 | ug/L | | | 09/22/20 17:03 | 1 |
| Trichloroethene | ND | | 1.0 | 0.46 | ug/L | | | 09/22/20 17:03 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | 0.88 | ug/L | | | 09/22/20 17:03 | 1 |
| Vinyl chloride | ND | | 1.0 | 0.90 | ug/L | | | 09/22/20 17:03 | 1 |
| Xylenes, Total | ND | | 2.0 | 0.66 | ug/L | | | 09/22/20 17:03 | 1 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Tentatively Identified Compound* | *None* | | *ug/L* | | | | | *09/22/20 17:03* | *1* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *80 - 120* | | *09/22/20 17:03* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *104* | | *77 - 120* | | *09/22/20 17:03* | *1* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *73 - 120* | | *09/22/20 17:03* | *1* |
| *Dibromofluoromethane (Surr)* | *97* | | *75 - 123* | | *09/22/20 17:03* | *1* |

# Surrogate Summary

Client: LaBella Associates DPC
Job ID: 480-175323-1
Project/Site: Former Emerson Street Landfill Project

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Matrix: Water** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | TOL | DCA | BFB | DBFM |
| Lab Sample ID | Client Sample ID | (80-120) | (77-120) | (73-120) | (75-123) |
| 480-175323-7 | LAB-SBW-16-09172020 33 | 99 | 109 | 98 | 101 |
| 480-175323-8 | LAB-SBW-16-09172020 44 | 103 | 113 | 104 | 107 |
| 480-175323-9 | LAB-SBW-15-09172020 28 | 101 | 110 | 103 | 104 |
| 480-175323-9 MS | LAB-SBW-15-09172020 28 | 104 | 113 | 104 | 106 |
| 480-175323-9 MSD | LAB-SBW-15-09172020 28 | 105 | 112 | 106 | 99 |
| 480-175323-10 | LAB-SBW-15-09172020 40 | 98 | 103 | 99 | 103 |
| 480-175323-11 | BD-GW-09172020 | 99 | 104 | 98 | 103 |
| 480-175323-12 | TRIP BLANK-09172020 | 99 | 104 | 97 | 97 |
| LCS 480-550342/5 | Lab Control Sample | 104 | 108 | 106 | 104 |
| LCS 480-550523/5 | Lab Control Sample | 100 | 103 | 99 | 101 |
| MB 480-550342/7 | Method Blank | 100 | 110 | 98 | 101 |
| MB 480-550523/7 | Method Blank | 102 | 102 | 97 | 101 |

**Surrogate Legend**

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 480-550342/7**
**Matrix: Water**
**Analysis Batch: 550342**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.0 | 0.82 | ug/L | | | 09/21/20 11:27 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/21/20 11:27 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | 0.23 | ug/L | | | 09/21/20 11:27 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.0 | 0.31 | ug/L | | | 09/21/20 11:27 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | 0.38 | ug/L | | | 09/21/20 11:27 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | 0.29 | ug/L | | | 09/21/20 11:27 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.41 | ug/L | | | 09/21/20 11:27 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 1.0 | 0.39 | ug/L | | | 09/21/20 11:27 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/21/20 11:27 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/21/20 11:27 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | 0.72 | ug/L | | | 09/21/20 11:27 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | 0.78 | ug/L | | | 09/21/20 11:27 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | 0.84 | ug/L | | | 09/21/20 11:27 | 1 |
| 2-Butanone (MEK) | ND | | 10 | 1.3 | ug/L | | | 09/21/20 11:27 | 1 |
| 2-Hexanone | ND | | 5.0 | 1.2 | ug/L | | | 09/21/20 11:27 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | 2.1 | ug/L | | | 09/21/20 11:27 | 1 |
| Acetone | ND | | 10 | 3.0 | ug/L | | | 09/21/20 11:27 | 1 |
| Benzene | ND | | 1.0 | 0.41 | ug/L | | | 09/21/20 11:27 | 1 |
| Bromodichloromethane | ND | | 1.0 | 0.39 | ug/L | | | 09/21/20 11:27 | 1 |
| Bromoform | ND | | 1.0 | 0.26 | ug/L | | | 09/21/20 11:27 | 1 |
| Bromomethane | ND | | 1.0 | 0.69 | ug/L | | | 09/21/20 11:27 | 1 |
| Carbon disulfide | ND | | 1.0 | 0.19 | ug/L | | | 09/21/20 11:27 | 1 |
| Carbon tetrachloride | ND | | 1.0 | 0.27 | ug/L | | | 09/21/20 11:27 | 1 |
| Chlorobenzene | ND | | 1.0 | 0.75 | ug/L | | | 09/21/20 11:27 | 1 |
| Dibromochloromethane | ND | | 1.0 | 0.32 | ug/L | | | 09/21/20 11:27 | 1 |
| Chloroethane | ND | | 1.0 | 0.32 | ug/L | | | 09/21/20 11:27 | 1 |
| Chloroform | ND | | 1.0 | 0.34 | ug/L | | | 09/21/20 11:27 | 1 |
| Chloromethane | ND | | 1.0 | 0.35 | ug/L | | | 09/21/20 11:27 | 1 |
| cis-1,2-Dichloroethene | ND | | 1.0 | 0.81 | ug/L | | | 09/21/20 11:27 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | 0.36 | ug/L | | | 09/21/20 11:27 | 1 |
| Cyclohexane | ND | | 1.0 | 0.18 | ug/L | | | 09/21/20 11:27 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | 0.68 | ug/L | | | 09/21/20 11:27 | 1 |
| Ethylbenzene | ND | | 1.0 | 0.74 | ug/L | | | 09/21/20 11:27 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | 0.73 | ug/L | | | 09/21/20 11:27 | 1 |
| Isopropylbenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/21/20 11:27 | 1 |
| Methyl acetate | ND | | 2.5 | 1.3 | ug/L | | | 09/21/20 11:27 | 1 |
| Methyl tert-butyl ether | ND | | 1.0 | 0.16 | ug/L | | | 09/21/20 11:27 | 1 |
| Methylcyclohexane | ND | | 1.0 | 0.16 | ug/L | | | 09/21/20 11:27 | 1 |
| Methylene Chloride | ND | | 1.0 | 0.44 | ug/L | | | 09/21/20 11:27 | 1 |
| Styrene | ND | | 1.0 | 0.73 | ug/L | | | 09/21/20 11:27 | 1 |
| Tetrachloroethene | ND | | 1.0 | 0.36 | ug/L | | | 09/21/20 11:27 | 1 |
| Toluene | ND | | 1.0 | 0.51 | ug/L | | | 09/21/20 11:27 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | 0.90 | ug/L | | | 09/21/20 11:27 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | 0.37 | ug/L | | | 09/21/20 11:27 | 1 |
| Trichloroethene | ND | | 1.0 | 0.46 | ug/L | | | 09/21/20 11:27 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | 0.88 | ug/L | | | 09/21/20 11:27 | 1 |
| Vinyl chloride | ND | | 1.0 | 0.90 | ug/L | | | 09/21/20 11:27 | 1 |
| Xylenes, Total | ND | | 2.0 | 0.66 | ug/L | | | 09/21/20 11:27 | 1 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 480-550342/7**
**Matrix: Water**
**Analysis Batch: 550342**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Tentatively Identified Compound | MB Est. Result | MB Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tentatively Identified Compound | None | | ug/L | | | | | 09/21/20 11:27 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 100 | | 80 - 120 | | 09/21/20 11:27 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 110 | | 77 - 120 | | 09/21/20 11:27 | 1 |
| 4-Bromofluorobenzene (Surr) | 98 | | 73 - 120 | | 09/21/20 11:27 | 1 |
| Dibromofluoromethane (Surr) | 101 | | 75 - 123 | | 09/21/20 11:27 | 1 |

**Lab Sample ID: LCS 480-550342/5**
**Matrix: Water**
**Analysis Batch: 550342**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 25.0 | 24.8 | | ug/L | | 99 | 73 - 126 |
| 1,1,2,2-Tetrachloroethane | 25.0 | 23.0 | | ug/L | | 92 | 76 - 120 |
| 1,1,2-Trichloroethane | 25.0 | 24.7 | | ug/L | | 99 | 76 - 122 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.0 | 28.4 | | ug/L | | 114 | 61 - 148 |
| 1,1-Dichloroethane | 25.0 | 24.1 | | ug/L | | 96 | 77 - 120 |
| 1,1-Dichloroethene | 25.0 | 24.5 | | ug/L | | 98 | 66 - 127 |
| 1,2,4-Trichlorobenzene | 25.0 | 25.0 | | ug/L | | 100 | 79 - 122 |
| 1,2-Dibromo-3-Chloropropane | 25.0 | 25.9 | | ug/L | | 104 | 56 - 134 |
| 1,2-Dichlorobenzene | 25.0 | 24.0 | | ug/L | | 96 | 80 - 124 |
| 1,2-Dichloroethane | 25.0 | 25.4 | | ug/L | | 101 | 75 - 120 |
| 1,2-Dichloropropane | 25.0 | 24.5 | | ug/L | | 98 | 76 - 120 |
| 1,3-Dichlorobenzene | 25.0 | 24.8 | | ug/L | | 99 | 77 - 120 |
| 1,4-Dichlorobenzene | 25.0 | 24.7 | | ug/L | | 99 | 80 - 120 |
| 2-Butanone (MEK) | 125 | 138 | | ug/L | | 110 | 57 - 140 |
| 2-Hexanone | 125 | 132 | | ug/L | | 106 | 65 - 127 |
| 4-Methyl-2-pentanone (MIBK) | 125 | 123 | | ug/L | | 98 | 71 - 125 |
| Acetone | 125 | 152 | | ug/L | | 122 | 56 - 142 |
| Benzene | 25.0 | 24.2 | | ug/L | | 97 | 71 - 124 |
| Bromodichloromethane | 25.0 | 25.8 | | ug/L | | 103 | 80 - 122 |
| Bromoform | 25.0 | 26.0 | | ug/L | | 104 | 61 - 132 |
| Bromomethane | 25.0 | 25.1 | | ug/L | | 101 | 55 - 144 |
| Carbon disulfide | 25.0 | 23.0 | | ug/L | | 92 | 59 - 134 |
| Carbon tetrachloride | 25.0 | 26.8 | | ug/L | | 107 | 72 - 134 |
| Chlorobenzene | 25.0 | 25.3 | | ug/L | | 101 | 80 - 120 |
| Dibromochloromethane | 25.0 | 26.5 | | ug/L | | 106 | 75 - 125 |
| Chloroethane | 25.0 | 25.3 | | ug/L | | 101 | 69 - 136 |
| Chloroform | 25.0 | 24.3 | | ug/L | | 97 | 73 - 127 |
| Chloromethane | 25.0 | 24.1 | | ug/L | | 97 | 68 - 124 |
| cis-1,2-Dichloroethene | 25.0 | 23.8 | | ug/L | | 95 | 74 - 124 |
| cis-1,3-Dichloropropene | 25.0 | 26.2 | | ug/L | | 105 | 74 - 124 |
| Cyclohexane | 25.0 | 25.4 | | ug/L | | 102 | 59 - 135 |
| Dichlorodifluoromethane | 25.0 | 31.6 | | ug/L | | 126 | 59 - 135 |
| Ethylbenzene | 25.0 | 25.3 | | ug/L | | 101 | 77 - 123 |
| 1,2-Dibromoethane | 25.0 | 24.9 | | ug/L | | 99 | 77 - 120 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 480-550342/5**
**Matrix: Water**
**Analysis Batch: 550342**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Isopropylbenzene | 25.0 | 25.2 | | ug/L | | 101 | 77 - 122 |
| Methyl acetate | 50.0 | 46.4 | | ug/L | | 93 | 74 - 133 |
| Methyl tert-butyl ether | 25.0 | 24.2 | | ug/L | | 97 | 77 - 120 |
| Methylcyclohexane | 25.0 | 26.5 | | ug/L | | 106 | 68 - 134 |
| Methylene Chloride | 25.0 | 21.9 | | ug/L | | 88 | 75 - 124 |
| Styrene | 25.0 | 25.3 | | ug/L | | 101 | 80 - 120 |
| Tetrachloroethene | 25.0 | 24.6 | | ug/L | | 98 | 74 - 122 |
| Toluene | 25.0 | 24.9 | | ug/L | | 100 | 80 - 122 |
| trans-1,2-Dichloroethene | 25.0 | 23.5 | | ug/L | | 94 | 73 - 127 |
| trans-1,3-Dichloropropene | 25.0 | 26.8 | | ug/L | | 107 | 80 - 120 |
| Trichloroethene | 25.0 | 24.0 | | ug/L | | 96 | 74 - 123 |
| Trichlorofluoromethane | 25.0 | 30.0 | | ug/L | | 120 | 62 - 150 |
| Vinyl chloride | 25.0 | 25.9 | | ug/L | | 104 | 65 - 133 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *104* | | *80 - 120* |
| *1,2-Dichloroethane-d4 (Surr)* | *108* | | *77 - 120* |
| *4-Bromofluorobenzene (Surr)* | *106* | | *73 - 120* |
| *Dibromofluoromethane (Surr)* | *104* | | *75 - 123* |

**Lab Sample ID: 480-175323-9 MS**
**Matrix: Water**
**Analysis Batch: 550342**

**Client Sample ID: LAB-SBW-15-09172020 28**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 9.7 | J | 250 | 281 | | ug/L | | 108 | 73 - 126 |
| 1,1,2,2-Tetrachloroethane | ND | | 250 | 244 | | ug/L | | 98 | 76 - 120 |
| 1,1,2-Trichloroethane | ND | | 250 | 250 | | ug/L | | 100 | 76 - 122 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 250 | 308 | | ug/L | | 123 | 61 - 148 |
| 1,1-Dichloroethane | 40 | | 250 | 290 | | ug/L | | 100 | 77 - 120 |
| 1,1-Dichloroethene | ND | | 250 | 271 | | ug/L | | 108 | 66 - 127 |
| 1,2,4-Trichlorobenzene | ND | | 250 | 260 | | ug/L | | 104 | 79 - 122 |
| 1,2-Dibromo-3-Chloropropane | ND | | 250 | 282 | | ug/L | | 113 | 56 - 134 |
| 1,2-Dichlorobenzene | ND | | 250 | 263 | | ug/L | | 105 | 80 - 124 |
| 1,2-Dichloroethane | ND | | 250 | 264 | | ug/L | | 106 | 75 - 120 |
| 1,2-Dichloropropane | ND | | 250 | 256 | | ug/L | | 102 | 76 - 120 |
| 1,3-Dichlorobenzene | ND | | 250 | 267 | | ug/L | | 107 | 77 - 120 |
| 1,4-Dichlorobenzene | ND | | 250 | 263 | | ug/L | | 105 | 78 - 124 |
| 2-Butanone (MEK) | ND | | 1250 | 1280 | | ug/L | | 102 | 57 - 140 |
| 2-Hexanone | ND | | 1250 | 1270 | | ug/L | | 102 | 65 - 127 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 1250 | 1250 | | ug/L | | 100 | 71 - 125 |
| Acetone | ND | | 1250 | 1300 | | ug/L | | 104 | 56 - 142 |
| Benzene | 35 | | 250 | 291 | | ug/L | | 102 | 71 - 124 |
| Bromodichloromethane | ND | | 250 | 268 | | ug/L | | 107 | 80 - 122 |
| Bromoform | ND | | 250 | 258 | | ug/L | | 103 | 61 - 132 |
| Bromomethane | ND | | 250 | 252 | | ug/L | | 101 | 55 - 144 |
| Carbon disulfide | ND | | 250 | 258 | | ug/L | | 103 | 59 - 134 |
| Carbon tetrachloride | ND | | 250 | 289 | | ug/L | | 116 | 72 - 134 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 480-175323-9 MS**
**Matrix: Water**
**Analysis Batch: 550342**

**Client Sample ID: LAB-SBW-15-09172020 28**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | ND | | 250 | 257 | | ug/L | | 103 | 80 - 120 |
| Dibromochloromethane | ND | | 250 | 275 | | ug/L | | 110 | 75 - 125 |
| Chloroethane | 260 | | 250 | 517 | | ug/L | | 104 | 69 - 136 |
| Chloroform | ND | | 250 | 255 | | ug/L | | 102 | 73 - 127 |
| Chloromethane | ND | | 250 | 218 | | ug/L | | 87 | 68 - 124 |
| cis-1,2-Dichloroethene | 53 | | 250 | 298 | | ug/L | | 98 | 74 - 124 |
| cis-1,3-Dichloropropene | ND | | 250 | 252 | | ug/L | | 101 | 74 - 124 |
| Cyclohexane | ND | | 250 | 282 | | ug/L | | 113 | 59 - 135 |
| Dichlorodifluoromethane | ND | | 250 | 302 | | ug/L | | 121 | 59 - 135 |
| Ethylbenzene | ND | | 250 | 267 | | ug/L | | 107 | 77 - 123 |
| 1,2-Dibromoethane | ND | | 250 | 248 | | ug/L | | 99 | 77 - 120 |
| Isopropylbenzene | ND | | 250 | 281 | | ug/L | | 112 | 77 - 122 |
| Methyl acetate | ND | | 500 | 469 | | ug/L | | 94 | 74 - 133 |
| Methyl tert-butyl ether | 6.4 | J | 250 | 253 | | ug/L | | 99 | 77 - 120 |
| Methylcyclohexane | 9.0 | J | 250 | 304 | | ug/L | | 118 | 68 - 134 |
| Methylene Chloride | ND | | 250 | 235 | | ug/L | | 94 | 75 - 124 |
| Styrene | ND | | 250 | 269 | | ug/L | | 108 | 80 - 120 |
| Tetrachloroethene | ND | | 250 | 267 | | ug/L | | 107 | 74 - 122 |
| Toluene | ND | | 250 | 264 | | ug/L | | 106 | 80 - 122 |
| trans-1,2-Dichloroethene | ND | | 250 | 270 | | ug/L | | 108 | 73 - 127 |
| trans-1,3-Dichloropropene | ND | | 250 | 260 | | ug/L | | 104 | 80 - 120 |
| Trichloroethene | ND | | 250 | 261 | | ug/L | | 104 | 74 - 123 |
| Trichlorofluoromethane | ND | | 250 | 301 | | ug/L | | 120 | 62 - 150 |
| Vinyl chloride | 38 | | 250 | 293 | | ug/L | | 102 | 65 - 133 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *104* | | *80 - 120* |
| *1,2-Dichloroethane-d4 (Surr)* | *113* | | *77 - 120* |
| *4-Bromofluorobenzene (Surr)* | *104* | | *73 - 120* |
| *Dibromofluoromethane (Surr)* | *106* | | *75 - 123* |

**Lab Sample ID: 480-175323-9 MSD**
**Matrix: Water**
**Analysis Batch: 550342**

**Client Sample ID: LAB-SBW-15-09172020 28**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 9.7 | J | 250 | 274 | | ug/L | | 106 | 73 - 126 | 2 | 15 |
| 1,1,2,2-Tetrachloroethane | ND | | 250 | 238 | | ug/L | | 95 | 76 - 120 | 3 | 15 |
| 1,1,2-Trichloroethane | ND | | 250 | 261 | | ug/L | | 104 | 76 - 122 | 4 | 15 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 250 | 302 | | ug/L | | 121 | 61 - 148 | 2 | 20 |
| 1,1-Dichloroethane | 40 | | 250 | 279 | | ug/L | | 96 | 77 - 120 | 4 | 20 |
| 1,1-Dichloroethene | ND | | 250 | 261 | | ug/L | | 105 | 66 - 127 | 4 | 16 |
| 1,2,4-Trichlorobenzene | ND | | 250 | 260 | | ug/L | | 104 | 79 - 122 | 0 | 20 |
| 1,2-Dibromo-3-Chloropropane | ND | | 250 | 269 | | ug/L | | 107 | 56 - 134 | 5 | 15 |
| 1,2-Dichlorobenzene | ND | | 250 | 264 | | ug/L | | 105 | 80 - 124 | 0 | 20 |
| 1,2-Dichloroethane | ND | | 250 | 258 | | ug/L | | 103 | 75 - 120 | 2 | 20 |
| 1,2-Dichloropropane | ND | | 250 | 254 | | ug/L | | 102 | 76 - 120 | 1 | 20 |
| 1,3-Dichlorobenzene | ND | | 250 | 263 | | ug/L | | 105 | 77 - 120 | 1 | 20 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 480-175323-9 MSD**
**Client Sample ID: LAB-SBW-15-09172020 28**
**Matrix: Water**
**Prep Type: Total/NA**
**Analysis Batch: 550342**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | | 250 | 262 | | ug/L | | 105 | 78 - 124 | 0 | 20 |
| 2-Butanone (MEK) | ND | | 1250 | 1350 | | ug/L | | 108 | 57 - 140 | 6 | 20 |
| 2-Hexanone | ND | | 1250 | 1340 | | ug/L | | 107 | 65 - 127 | 5 | 15 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 1250 | 1270 | | ug/L | | 101 | 71 - 125 | 1 | 35 |
| Acetone | ND | | 1250 | 1370 | | ug/L | | 110 | 56 - 142 | 5 | 15 |
| Benzene | 35 | | 250 | 286 | | ug/L | | 100 | 71 - 124 | 2 | 13 |
| Bromodichloromethane | ND | | 250 | 260 | | ug/L | | 104 | 80 - 122 | 3 | 15 |
| Bromoform | ND | | 250 | 269 | | ug/L | | 108 | 61 - 132 | 4 | 15 |
| Bromomethane | ND | | 250 | 244 | | ug/L | | 98 | 55 - 144 | 3 | 15 |
| Carbon disulfide | ND | | 250 | 249 | | ug/L | | 100 | 59 - 134 | 3 | 15 |
| Carbon tetrachloride | ND | | 250 | 286 | | ug/L | | 115 | 72 - 134 | 1 | 15 |
| Chlorobenzene | ND | | 250 | 258 | | ug/L | | 103 | 80 - 120 | 0 | 25 |
| Dibromochloromethane | ND | | 250 | 269 | | ug/L | | 107 | 75 - 125 | 2 | 15 |
| Chloroethane | 260 | | 250 | 515 | | ug/L | | 104 | 69 - 136 | 0 | 15 |
| Chloroform | ND | | 250 | 245 | | ug/L | | 98 | 73 - 127 | 4 | 20 |
| Chloromethane | ND | | 250 | 223 | | ug/L | | 89 | 68 - 124 | 2 | 15 |
| cis-1,2-Dichloroethene | 53 | | 250 | 293 | | ug/L | | 96 | 74 - 124 | 2 | 15 |
| cis-1,3-Dichloropropene | ND | | 250 | 254 | | ug/L | | 102 | 74 - 124 | 1 | 15 |
| Cyclohexane | ND | | 250 | 275 | | ug/L | | 110 | 59 - 135 | 3 | 20 |
| Dichlorodifluoromethane | ND | | 250 | 302 | | ug/L | | 121 | 59 - 135 | 0 | 20 |
| Ethylbenzene | ND | | 250 | 268 | | ug/L | | 107 | 77 - 123 | 1 | 15 |
| 1,2-Dibromoethane | ND | | 250 | 260 | | ug/L | | 104 | 77 - 120 | 5 | 15 |
| Isopropylbenzene | ND | | 250 | 270 | | ug/L | | 108 | 77 - 122 | 4 | 20 |
| Methyl acetate | ND | | 500 | 470 | | ug/L | | 94 | 74 - 133 | 0 | 20 |
| Methyl tert-butyl ether | 6.4 | J | 250 | 252 | | ug/L | | 98 | 77 - 120 | 0 | 37 |
| Methylcyclohexane | 9.0 | J | 250 | 297 | | ug/L | | 115 | 68 - 134 | 2 | 20 |
| Methylene Chloride | ND | | 250 | 223 | | ug/L | | 89 | 75 - 124 | 5 | 15 |
| Styrene | ND | | 250 | 270 | | ug/L | | 108 | 80 - 120 | 0 | 20 |
| Tetrachloroethene | ND | | 250 | 267 | | ug/L | | 107 | 74 - 122 | 0 | 20 |
| Toluene | ND | | 250 | 264 | | ug/L | | 106 | 80 - 122 | 0 | 15 |
| trans-1,2-Dichloroethene | ND | | 250 | 257 | | ug/L | | 103 | 73 - 127 | 5 | 20 |
| trans-1,3-Dichloropropene | ND | | 250 | 262 | | ug/L | | 105 | 80 - 120 | 1 | 15 |
| Trichloroethene | ND | | 250 | 253 | | ug/L | | 101 | 74 - 123 | 3 | 16 |
| Trichlorofluoromethane | ND | | 250 | 292 | | ug/L | | 117 | 62 - 150 | 3 | 20 |
| Vinyl chloride | 38 | | 250 | 285 | | ug/L | | 99 | 65 - 133 | 3 | 15 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *105* | | *80 - 120* |
| *1,2-Dichloroethane-d4 (Surr)* | *112* | | *77 - 120* |
| *4-Bromofluorobenzene (Surr)* | *106* | | *73 - 120* |
| *Dibromofluoromethane (Surr)* | *99* | | *75 - 123* |

**Lab Sample ID: MB 480-550523/7**
**Client Sample ID: Method Blank**
**Matrix: Water**
**Prep Type: Total/NA**
**Analysis Batch: 550523**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.0 | 0.82 | ug/L | | | 09/22/20 10:35 | 1 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 480-550523/7**
**Matrix: Water**
**Analysis Batch: 550523**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/22/20 10:35 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | 0.23 | ug/L | | | 09/22/20 10:35 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.0 | 0.31 | ug/L | | | 09/22/20 10:35 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | 0.38 | ug/L | | | 09/22/20 10:35 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | 0.29 | ug/L | | | 09/22/20 10:35 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.41 | ug/L | | | 09/22/20 10:35 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 1.0 | 0.39 | ug/L | | | 09/22/20 10:35 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/22/20 10:35 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/22/20 10:35 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | 0.72 | ug/L | | | 09/22/20 10:35 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | 0.78 | ug/L | | | 09/22/20 10:35 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | 0.84 | ug/L | | | 09/22/20 10:35 | 1 |
| 2-Butanone (MEK) | ND | | 10 | 1.3 | ug/L | | | 09/22/20 10:35 | 1 |
| 2-Hexanone | ND | | 5.0 | 1.2 | ug/L | | | 09/22/20 10:35 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | 2.1 | ug/L | | | 09/22/20 10:35 | 1 |
| Acetone | ND | | 10 | 3.0 | ug/L | | | 09/22/20 10:35 | 1 |
| Benzene | ND | | 1.0 | 0.41 | ug/L | | | 09/22/20 10:35 | 1 |
| Bromodichloromethane | ND | | 1.0 | 0.39 | ug/L | | | 09/22/20 10:35 | 1 |
| Bromoform | ND | | 1.0 | 0.26 | ug/L | | | 09/22/20 10:35 | 1 |
| Bromomethane | ND | | 1.0 | 0.69 | ug/L | | | 09/22/20 10:35 | 1 |
| Carbon disulfide | ND | | 1.0 | 0.19 | ug/L | | | 09/22/20 10:35 | 1 |
| Carbon tetrachloride | ND | | 1.0 | 0.27 | ug/L | | | 09/22/20 10:35 | 1 |
| Chlorobenzene | ND | | 1.0 | 0.75 | ug/L | | | 09/22/20 10:35 | 1 |
| Dibromochloromethane | ND | | 1.0 | 0.32 | ug/L | | | 09/22/20 10:35 | 1 |
| Chloroethane | ND | | 1.0 | 0.32 | ug/L | | | 09/22/20 10:35 | 1 |
| Chloroform | ND | | 1.0 | 0.34 | ug/L | | | 09/22/20 10:35 | 1 |
| Chloromethane | ND | | 1.0 | 0.35 | ug/L | | | 09/22/20 10:35 | 1 |
| cis-1,2-Dichloroethene | ND | | 1.0 | 0.81 | ug/L | | | 09/22/20 10:35 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | 0.36 | ug/L | | | 09/22/20 10:35 | 1 |
| Cyclohexane | ND | | 1.0 | 0.18 | ug/L | | | 09/22/20 10:35 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | 0.68 | ug/L | | | 09/22/20 10:35 | 1 |
| Ethylbenzene | ND | | 1.0 | 0.74 | ug/L | | | 09/22/20 10:35 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | 0.73 | ug/L | | | 09/22/20 10:35 | 1 |
| Isopropylbenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/22/20 10:35 | 1 |
| Methyl acetate | ND | | 2.5 | 1.3 | ug/L | | | 09/22/20 10:35 | 1 |
| Methyl tert-butyl ether | ND | | 1.0 | 0.16 | ug/L | | | 09/22/20 10:35 | 1 |
| Methylcyclohexane | ND | | 1.0 | 0.16 | ug/L | | | 09/22/20 10:35 | 1 |
| Methylene Chloride | ND | | 1.0 | 0.44 | ug/L | | | 09/22/20 10:35 | 1 |
| Styrene | ND | | 1.0 | 0.73 | ug/L | | | 09/22/20 10:35 | 1 |
| Tetrachloroethene | ND | | 1.0 | 0.36 | ug/L | | | 09/22/20 10:35 | 1 |
| Toluene | ND | | 1.0 | 0.51 | ug/L | | | 09/22/20 10:35 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | 0.90 | ug/L | | | 09/22/20 10:35 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | 0.37 | ug/L | | | 09/22/20 10:35 | 1 |
| Trichloroethene | ND | | 1.0 | 0.46 | ug/L | | | 09/22/20 10:35 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | 0.88 | ug/L | | | 09/22/20 10:35 | 1 |
| Vinyl chloride | ND | | 1.0 | 0.90 | ug/L | | | 09/22/20 10:35 | 1 |
| Xylenes, Total | ND | | 2.0 | 0.66 | ug/L | | | 09/22/20 10:35 | 1 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 480-550523/7**
**Matrix: Water**
**Analysis Batch: 550523**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Tentatively Identified Compound | MB Est. Result | MB Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tentatively Identified Compound | None | | ug/L | | | | | 09/22/20 10:35 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 102 | | 80 - 120 | | 09/22/20 10:35 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 102 | | 77 - 120 | | 09/22/20 10:35 | 1 |
| 4-Bromofluorobenzene (Surr) | 97 | | 73 - 120 | | 09/22/20 10:35 | 1 |
| Dibromofluoromethane (Surr) | 101 | | 75 - 123 | | 09/22/20 10:35 | 1 |

**Lab Sample ID: LCS 480-550523/5**
**Matrix: Water**
**Analysis Batch: 550523**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 25.0 | 27.0 | | ug/L | | 108 | 73 - 126 |
| 1,1,2,2-Tetrachloroethane | 25.0 | 27.8 | | ug/L | | 111 | 76 - 120 |
| 1,1,2-Trichloroethane | 25.0 | 26.9 | | ug/L | | 108 | 76 - 122 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.0 | 29.0 | | ug/L | | 116 | 61 - 148 |
| 1,1-Dichloroethane | 25.0 | 28.0 | | ug/L | | 112 | 77 - 120 |
| 1,1-Dichloroethene | 25.0 | 28.4 | | ug/L | | 113 | 66 - 127 |
| 1,2,4-Trichlorobenzene | 25.0 | 28.2 | | ug/L | | 113 | 79 - 122 |
| 1,2-Dibromo-3-Chloropropane | 25.0 | 29.5 | | ug/L | | 118 | 56 - 134 |
| 1,2-Dichlorobenzene | 25.0 | 27.5 | | ug/L | | 110 | 80 - 124 |
| 1,2-Dichloroethane | 25.0 | 26.4 | | ug/L | | 106 | 75 - 120 |
| 1,2-Dichloropropane | 25.0 | 27.6 | | ug/L | | 110 | 76 - 120 |
| 1,3-Dichlorobenzene | 25.0 | 27.3 | | ug/L | | 109 | 77 - 120 |
| 1,4-Dichlorobenzene | 25.0 | 27.1 | | ug/L | | 109 | 80 - 120 |
| 2-Butanone (MEK) | 125 | 150 | | ug/L | | 120 | 57 - 140 |
| 2-Hexanone | 125 | 150 | | ug/L | | 120 | 65 - 127 |
| 4-Methyl-2-pentanone (MIBK) | 125 | 140 | | ug/L | | 112 | 71 - 125 |
| Acetone | 125 | 154 | | ug/L | | 124 | 56 - 142 |
| Benzene | 25.0 | 27.2 | | ug/L | | 109 | 71 - 124 |
| Bromodichloromethane | 25.0 | 28.7 | | ug/L | | 115 | 80 - 122 |
| Bromoform | 25.0 | 27.5 | | ug/L | | 110 | 61 - 132 |
| Bromomethane | 25.0 | 25.1 | | ug/L | | 101 | 55 - 144 |
| Carbon disulfide | 25.0 | 29.0 | | ug/L | | 116 | 59 - 134 |
| Carbon tetrachloride | 25.0 | 26.2 | | ug/L | | 105 | 72 - 134 |
| Chlorobenzene | 25.0 | 26.8 | | ug/L | | 107 | 80 - 120 |
| Dibromochloromethane | 25.0 | 26.6 | | ug/L | | 106 | 75 - 125 |
| Chloroethane | 25.0 | 25.9 | | ug/L | | 104 | 69 - 136 |
| Chloroform | 25.0 | 26.1 | | ug/L | | 104 | 73 - 127 |
| Chloromethane | 25.0 | 27.1 | | ug/L | | 108 | 68 - 124 |
| cis-1,2-Dichloroethene | 25.0 | 26.3 | | ug/L | | 105 | 74 - 124 |
| cis-1,3-Dichloropropene | 25.0 | 27.2 | | ug/L | | 109 | 74 - 124 |
| Cyclohexane | 25.0 | 30.0 | | ug/L | | 120 | 59 - 135 |
| Dichlorodifluoromethane | 25.0 | 26.5 | | ug/L | | 106 | 59 - 135 |
| Ethylbenzene | 25.0 | 27.6 | | ug/L | | 110 | 77 - 123 |
| 1,2-Dibromoethane | 25.0 | 26.7 | | ug/L | | 107 | 77 - 120 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 480-550523/5**
**Matrix: Water**
**Analysis Batch: 550523**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Isopropylbenzene | 25.0 | 28.3 | | ug/L | | 113 | 77 - 122 |
| Methyl acetate | 50.0 | 51.2 | | ug/L | | 102 | 74 - 133 |
| Methyl tert-butyl ether | 25.0 | 26.0 | | ug/L | | 104 | 77 - 120 |
| Methylcyclohexane | 25.0 | 29.5 | | ug/L | | 118 | 68 - 134 |
| Methylene Chloride | 25.0 | 25.4 | | ug/L | | 102 | 75 - 124 |
| Styrene | 25.0 | 27.4 | | ug/L | | 110 | 80 - 120 |
| Tetrachloroethene | 25.0 | 27.4 | | ug/L | | 110 | 74 - 122 |
| Toluene | 25.0 | 27.1 | | ug/L | | 108 | 80 - 122 |
| trans-1,2-Dichloroethene | 25.0 | 26.4 | | ug/L | | 106 | 73 - 127 |
| trans-1,3-Dichloropropene | 25.0 | 27.1 | | ug/L | | 108 | 80 - 120 |
| Trichloroethene | 25.0 | 27.4 | | ug/L | | 110 | 74 - 123 |
| Trichlorofluoromethane | 25.0 | 26.0 | | ug/L | | 104 | 62 - 150 |
| Vinyl chloride | 25.0 | 26.0 | | ug/L | | 104 | 65 - 133 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *80 - 120* |
| *1,2-Dichloroethane-d4 (Surr)* | *103* | | *77 - 120* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *73 - 120* |
| *Dibromofluoromethane (Surr)* | *101* | | *75 - 123* |

## Method: RSK-175 - Dissolved Gases (GC)

**Lab Sample ID: MB 480-550722/3**
**Matrix: Water**
**Analysis Batch: 550722**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethane | ND | | 7.5 | 1.5 | ug/L | | | 09/23/20 06:55 | 1 |
| Ethene | ND | | 7.0 | 1.5 | ug/L | | | 09/23/20 06:55 | 1 |

**Lab Sample ID: LCS 480-550722/4**
**Matrix: Water**
**Analysis Batch: 550722**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Ethane | 36.8 | 36.3 | | ug/L | | 99 | 79 - 120 |
| Ethene | 33.7 | 34.0 | | ug/L | | 101 | 85 - 120 |

**Lab Sample ID: LCSD 480-550722/5**
**Matrix: Water**
**Analysis Batch: 550722**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Ethane | 36.8 | 37.7 | | ug/L | | 103 | 79 - 120 | 4 | 50 |
| Ethene | 33.7 | 35.1 | | ug/L | | 104 | 85 - 120 | 3 | 50 |

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 480-550459/4**
**Matrix: Water**
**Analysis Batch: 550459**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 0.50 | 0.28 | mg/L | | | 09/21/20 18:13 | 1 |
| Sulfate | ND | | 2.0 | 0.35 | mg/L | | | 09/21/20 18:13 | 1 |

**Lab Sample ID: LCS 480-550459/3**
**Matrix: Water**
**Analysis Batch: 550459**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Chloride | 50.0 | 53.65 | | mg/L | | 107 | 90 - 110 |
| Sulfate | 50.0 | 51.83 | | mg/L | | 104 | 90 - 110 |

**Lab Sample ID: 480-175323-2 MS**
**Matrix: Water**
**Analysis Batch: 550459**

**Client Sample ID: LAB-SBW-19-09162020 47**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 666 | | 500 | 1134 | E | mg/L | | 94 | 81 - 120 |
| Sulfate | 29.5 | | 500 | 508.6 | | mg/L | | 96 | 80 - 120 |

**Lab Sample ID: 480-175323-2 MSD**
**Matrix: Water**
**Analysis Batch: 550459**

**Client Sample ID: LAB-SBW-19-09162020 47**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 666 | | 500 | 1128 | E | mg/L | | 92 | 81 - 120 | 1 | 15 |
| Sulfate | 29.5 | | 500 | 503.3 | | mg/L | | 95 | 80 - 120 | 1 | 15 |

**Lab Sample ID: MB 480-550665/4**
**Matrix: Water**
**Analysis Batch: 550665**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 0.50 | 0.28 | mg/L | | | 09/23/20 19:17 | 1 |
| Sulfate | ND | | 2.0 | 0.35 | mg/L | | | 09/23/20 19:17 | 1 |

**Lab Sample ID: LCS 480-550665/3**
**Matrix: Water**
**Analysis Batch: 550665**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Chloride | 50.0 | 49.89 | | mg/L | | 100 | 90 - 110 |
| Sulfate | 50.0 | 48.11 | | mg/L | | 96 | 90 - 110 |

## Method: SM 3500 FE D - Iron, Ferrous and Ferric

**Lab Sample ID: MB 480-550305/3**
**Matrix: Water**
**Analysis Batch: 550305**
**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | ND | | 0.10 | 0.075 | mg/L | | | 09/19/20 13:50 | 1 |

**Lab Sample ID: LCS 480-550305/4**
**Matrix: Water**
**Analysis Batch: 550305**
**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Ferrous Iron | 2.00 | 2.04 | | mg/L | | 102 | 90 - 110 |

**Lab Sample ID: 480-175323-4 MS**
**Matrix: Water**
**Analysis Batch: 550305**
**Client Sample ID: LAB-SBW-18-09162020 47**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | ND | HF | 2.00 | 2.29 | | mg/L | | 115 | 70 - 130 |

**Lab Sample ID: 480-175323-6 MS**
**Matrix: Water**
**Analysis Batch: 550305**
**Client Sample ID: LAB-SBW-17-09162020 52**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | ND | HF | 2.00 | 2.18 | | mg/L | | 109 | 70 - 130 |

**Lab Sample ID: 480-175323-1 DU**
**Matrix: Water**
**Analysis Batch: 550305**
**Client Sample ID: LAB-SBW-19-09162020 35**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | ND | HF | ND | | mg/L | | NC | 20 |

**Lab Sample ID: 480-175323-2 DU**
**Matrix: Water**
**Analysis Batch: 550305**
**Client Sample ID: LAB-SBW-19-09162020 47**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | ND | HF | ND | | mg/L | | NC | 20 |

**Lab Sample ID: 480-175323-3 DU**
**Matrix: Water**
**Analysis Batch: 550305**
**Client Sample ID: LAB-SBW-18-09162020 38**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | ND | HF | ND | | mg/L | | NC | 20 |

**Lab Sample ID: 480-175323-4 DU**
**Matrix: Water**
**Analysis Batch: 550305**
**Client Sample ID: LAB-SBW-18-09162020 47**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | ND | HF | ND | | mg/L | | NC | 20 |

## Method: SM 3500 FE D - Iron, Ferrous and Ferric

**Lab Sample ID: 480-175323-5 DU**
**Client Sample ID: LAB-SBW-17-09162020 42**
**Matrix: Water**
**Prep Type: Total/NA**
**Analysis Batch: 550305**

| Analyte | Sample Result | Sample Qualifier | | DU Result | DU Qualifier | Unit | D | | | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | ND | HF | | ND | | mg/L | | | | NC | 20 |

**Lab Sample ID: 480-175323-6 DU**
**Client Sample ID: LAB-SBW-17-09162020 52**
**Matrix: Water**
**Prep Type: Total/NA**
**Analysis Batch: 550305**

| Analyte | Sample Result | Sample Qualifier | | DU Result | DU Qualifier | Unit | D | | | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | ND | HF | | ND | | mg/L | | | | NC | 20 |

## Method: SM 4500 S2 F - Sulfide, Total

**Lab Sample ID: MB 480-550702/3**
**Client Sample ID: Method Blank**
**Matrix: Water**
**Prep Type: Total/NA**
**Analysis Batch: 550702**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Sulfide | ND | | 1.0 | 0.67 | mg/L | | | 09/22/20 16:35 | 1 |

**Lab Sample ID: LCS 480-550702/4**
**Client Sample ID: Lab Control Sample**
**Matrix: Water**
**Prep Type: Total/NA**
**Analysis Batch: 550702**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfide | | | 9.20 | 9.20 | | mg/L | | 100 | 90 - 110 | | |

**Lab Sample ID: 480-175323-6 MS**
**Client Sample ID: LAB-SBW-17-09162020 52**
**Matrix: Water**
**Prep Type: Total/NA**
**Analysis Batch: 550702**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfide | ND | | 2.45 | 2.80 | | mg/L | | 114 | 40 - 150 | | |

## GC/MS VOA

### Analysis Batch: 550342

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-175323-7 | LAB-SBW-16-09172020 33 | Total/NA | Water | 8260C | |
| 480-175323-8 | LAB-SBW-16-09172020 44 | Total/NA | Water | 8260C | |
| 480-175323-9 | LAB-SBW-15-09172020 28 | Total/NA | Water | 8260C | |
| MB 480-550342/7 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-550342/5 | Lab Control Sample | Total/NA | Water | 8260C | |
| 480-175323-9 MS | LAB-SBW-15-09172020 28 | Total/NA | Water | 8260C | |
| 480-175323-9 MSD | LAB-SBW-15-09172020 28 | Total/NA | Water | 8260C | |

### Analysis Batch: 550523

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-175323-10 | LAB-SBW-15-09172020 40 | Total/NA | Water | 8260C | |
| 480-175323-11 | BD-GW-09172020 | Total/NA | Water | 8260C | |
| 480-175323-12 | TRIP BLANK-09172020 | Total/NA | Water | 8260C | |
| MB 480-550523/7 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-550523/5 | Lab Control Sample | Total/NA | Water | 8260C | |

## GC VOA

### Analysis Batch: 550722

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-175323-1 | LAB-SBW-19-09162020 35 | Total/NA | Water | RSK-175 | |
| 480-175323-2 | LAB-SBW-19-09162020 47 | Total/NA | Water | RSK-175 | |
| 480-175323-3 | LAB-SBW-18-09162020 38 | Total/NA | Water | RSK-175 | |
| 480-175323-4 | LAB-SBW-18-09162020 47 | Total/NA | Water | RSK-175 | |
| 480-175323-5 | LAB-SBW-17-09162020 42 | Total/NA | Water | RSK-175 | |
| 480-175323-6 | LAB-SBW-17-09162020 52 | Total/NA | Water | RSK-175 | |
| MB 480-550722/3 | Method Blank | Total/NA | Water | RSK-175 | |
| LCS 480-550722/4 | Lab Control Sample | Total/NA | Water | RSK-175 | |
| LCSD 480-550722/5 | Lab Control Sample Dup | Total/NA | Water | RSK-175 | |

## General Chemistry

### Analysis Batch: 550243

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-175323-1 | LAB-SBW-19-09162020 35 | Total/NA | Water | 353.2 | |
| 480-175323-2 | LAB-SBW-19-09162020 47 | Total/NA | Water | 353.2 | |
| 480-175323-3 | LAB-SBW-18-09162020 38 | Total/NA | Water | 353.2 | |
| 480-175323-4 | LAB-SBW-18-09162020 47 | Total/NA | Water | 353.2 | |
| 480-175323-5 | LAB-SBW-17-09162020 42 | Total/NA | Water | 353.2 | |
| 480-175323-6 | LAB-SBW-17-09162020 52 | Total/NA | Water | 353.2 | |

### Analysis Batch: 550244

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-175323-1 | LAB-SBW-19-09162020 35 | Total/NA | Water | 353.2 | |
| 480-175323-2 | LAB-SBW-19-09162020 47 | Total/NA | Water | 353.2 | |
| 480-175323-3 | LAB-SBW-18-09162020 38 | Total/NA | Water | 353.2 | |
| 480-175323-4 | LAB-SBW-18-09162020 47 | Total/NA | Water | 353.2 | |
| 480-175323-5 | LAB-SBW-17-09162020 42 | Total/NA | Water | 353.2 | |
| 480-175323-6 | LAB-SBW-17-09162020 52 | Total/NA | Water | 353.2 | |

## General Chemistry

### Analysis Batch: 550305

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-175323-1 | LAB-SBW-19-09162020 35 | Total/NA | Water | SM 3500 FE D | |
| 480-175323-2 | LAB-SBW-19-09162020 47 | Total/NA | Water | SM 3500 FE D | |
| 480-175323-3 | LAB-SBW-18-09162020 38 | Total/NA | Water | SM 3500 FE D | |
| 480-175323-4 | LAB-SBW-18-09162020 47 | Total/NA | Water | SM 3500 FE D | |
| 480-175323-5 | LAB-SBW-17-09162020 42 | Total/NA | Water | SM 3500 FE D | |
| 480-175323-6 | LAB-SBW-17-09162020 52 | Total/NA | Water | SM 3500 FE D | |
| MB 480-550305/3 | Method Blank | Total/NA | Water | SM 3500 FE D | |
| LCS 480-550305/4 | Lab Control Sample | Total/NA | Water | SM 3500 FE D | |
| 480-175323-4 MS | LAB-SBW-18-09162020 47 | Total/NA | Water | SM 3500 FE D | |
| 480-175323-6 MS | LAB-SBW-17-09162020 52 | Total/NA | Water | SM 3500 FE D | |
| 480-175323-1 DU | LAB-SBW-19-09162020 35 | Total/NA | Water | SM 3500 FE D | |
| 480-175323-2 DU | LAB-SBW-19-09162020 47 | Total/NA | Water | SM 3500 FE D | |
| 480-175323-3 DU | LAB-SBW-18-09162020 38 | Total/NA | Water | SM 3500 FE D | |
| 480-175323-4 DU | LAB-SBW-18-09162020 47 | Total/NA | Water | SM 3500 FE D | |
| 480-175323-5 DU | LAB-SBW-17-09162020 42 | Total/NA | Water | SM 3500 FE D | |
| 480-175323-6 DU | LAB-SBW-17-09162020 52 | Total/NA | Water | SM 3500 FE D | |

### Analysis Batch: 550459

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-175323-1 | LAB-SBW-19-09162020 35 | Total/NA | Water | 9056A | |
| 480-175323-2 | LAB-SBW-19-09162020 47 | Total/NA | Water | 9056A | |
| 480-175323-3 | LAB-SBW-18-09162020 38 | Total/NA | Water | 9056A | |
| 480-175323-4 | LAB-SBW-18-09162020 47 | Total/NA | Water | 9056A | |
| 480-175323-5 | LAB-SBW-17-09162020 42 | Total/NA | Water | 9056A | |
| 480-175323-6 | LAB-SBW-17-09162020 52 | Total/NA | Water | 9056A | |
| MB 480-550459/4 | Method Blank | Total/NA | Water | 9056A | |
| LCS 480-550459/3 | Lab Control Sample | Total/NA | Water | 9056A | |
| 480-175323-2 MS | LAB-SBW-19-09162020 47 | Total/NA | Water | 9056A | |
| 480-175323-2 MSD | LAB-SBW-19-09162020 47 | Total/NA | Water | 9056A | |

### Analysis Batch: 550665

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-175323-5 | LAB-SBW-17-09162020 42 | Total/NA | Water | 9056A | |
| 480-175323-6 | LAB-SBW-17-09162020 52 | Total/NA | Water | 9056A | |
| MB 480-550665/4 | Method Blank | Total/NA | Water | 9056A | |
| LCS 480-550665/3 | Lab Control Sample | Total/NA | Water | 9056A | |

### Analysis Batch: 550702

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-175323-1 | LAB-SBW-19-09162020 35 | Total/NA | Water | SM 4500 S2 F | |
| 480-175323-2 | LAB-SBW-19-09162020 47 | Total/NA | Water | SM 4500 S2 F | |
| 480-175323-3 | LAB-SBW-18-09162020 38 | Total/NA | Water | SM 4500 S2 F | |
| 480-175323-4 | LAB-SBW-18-09162020 47 | Total/NA | Water | SM 4500 S2 F | |
| 480-175323-5 | LAB-SBW-17-09162020 42 | Total/NA | Water | SM 4500 S2 F | |
| 480-175323-6 | LAB-SBW-17-09162020 52 | Total/NA | Water | SM 4500 S2 F | |
| MB 480-550702/3 | Method Blank | Total/NA | Water | SM 4500 S2 F | |
| LCS 480-550702/4 | Lab Control Sample | Total/NA | Water | SM 4500 S2 F | |
| 480-175323-6 MS | LAB-SBW-17-09162020 52 | Total/NA | Water | SM 4500 S2 F | |

# Lab Chronicle

Client: LaBella Associates DPC
Job ID: 480-175323-1
Project/Site: Former Emerson Street Landfill Project

## Client Sample ID: LAB-SBW-19-09162020 35
**Lab Sample ID: 480-175323-1**
**Date Collected: 09/16/20 11:05**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | RSK-175 | | 1 | 550722 | 09/23/20 08:11 | MAN | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 550243 | 09/18/20 14:11 | CRK | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 550244 | 09/18/20 14:15 | CRK | TAL BUF |
| Total/NA | Analysis | 9056A | | 10 | 550459 | 09/21/20 19:26 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 3500 FE D | | 1 | 550305 | 09/19/20 13:50 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4500 S2 F | | 1 | 550702 | 09/22/20 16:35 | MJB | TAL BUF |

## Client Sample ID: LAB-SBW-19-09162020 47
**Lab Sample ID: 480-175323-2**
**Date Collected: 09/16/20 12:40**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | RSK-175 | | 1 | 550722 | 09/23/20 08:29 | MAN | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 550243 | 09/18/20 14:16 | CRK | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 550244 | 09/18/20 14:16 | CRK | TAL BUF |
| Total/NA | Analysis | 9056A | | 10 | 550459 | 09/21/20 19:41 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 3500 FE D | | 1 | 550305 | 09/19/20 13:50 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4500 S2 F | | 1 | 550702 | 09/22/20 16:35 | MJB | TAL BUF |

## Client Sample ID: LAB-SBW-18-09162020 38
**Lab Sample ID: 480-175323-3**
**Date Collected: 09/16/20 11:15**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | RSK-175 | | 1 | 550722 | 09/23/20 08:48 | MAN | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 550243 | 09/18/20 14:17 | CRK | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 550244 | 09/18/20 14:18 | CRK | TAL BUF |
| Total/NA | Analysis | 9056A | | 10 | 550459 | 09/21/20 20:54 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 3500 FE D | | 1 | 550305 | 09/19/20 13:50 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4500 S2 F | | 1 | 550702 | 09/22/20 16:35 | MJB | TAL BUF |

## Client Sample ID: LAB-SBW-18-09162020 47
**Lab Sample ID: 480-175323-4**
**Date Collected: 09/16/20 13:25**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | RSK-175 | | 1 | 550722 | 09/23/20 09:07 | MAN | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 550244 | 09/18/20 14:17 | CRK | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 550243 | 09/18/20 14:18 | CRK | TAL BUF |
| Total/NA | Analysis | 9056A | | 10 | 550459 | 09/21/20 21:08 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 3500 FE D | | 1 | 550305 | 09/19/20 13:50 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4500 S2 F | | 1 | 550702 | 09/22/20 16:35 | MJB | TAL BUF |

# Lab Chronicle

Client: LaBella Associates DPC
Job ID: 480-175323-1
Project/Site: Former Emerson Street Landfill Project

## Client Sample ID: LAB-SBW-17-09162020 42
**Lab Sample ID: 480-175323-5**
**Date Collected: 09/16/20 15:45**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | RSK-175 | | 1 | 550722 | 09/23/20 09:26 | MAN | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 550243 | 09/18/20 14:10 | CRK | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 550244 | 09/18/20 14:10 | CRK | TAL BUF |
| Total/NA | Analysis | 9056A | | 10 | 550459 | 09/21/20 21:23 | IMZ | TAL BUF |
| Total/NA | Analysis | 9056A | | 20 | 550665 | 09/23/20 19:31 | RJS | TAL BUF |
| Total/NA | Analysis | SM 3500 FE D | | 1 | 550305 | 09/19/20 13:50 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4500 S2 F | | 1 | 550702 | 09/22/20 16:35 | MJB | TAL BUF |

## Client Sample ID: LAB-SBW-17-09162020 52
**Lab Sample ID: 480-175323-6**
**Date Collected: 09/16/20 17:00**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | RSK-175 | | 1 | 550722 | 09/23/20 09:45 | MAN | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 550243 | 09/18/20 14:13 | CRK | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 550244 | 09/18/20 14:13 | CRK | TAL BUF |
| Total/NA | Analysis | 9056A | | 10 | 550459 | 09/21/20 21:37 | IMZ | TAL BUF |
| Total/NA | Analysis | 9056A | | 20 | 550665 | 09/23/20 19:46 | RJS | TAL BUF |
| Total/NA | Analysis | SM 3500 FE D | | 1 | 550305 | 09/19/20 13:50 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4500 S2 F | | 1 | 550702 | 09/22/20 16:35 | MJB | TAL BUF |

## Client Sample ID: LAB-SBW-16-09172020 33
**Lab Sample ID: 480-175323-7**
**Date Collected: 09/17/20 09:20**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 40 | 550342 | 09/21/20 14:25 | CRL | TAL BUF |

## Client Sample ID: LAB-SBW-16-09172020 44
**Lab Sample ID: 480-175323-8**
**Date Collected: 09/17/20 11:15**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 4 | 550342 | 09/21/20 14:49 | CRL | TAL BUF |

## Client Sample ID: LAB-SBW-15-09172020 28
**Lab Sample ID: 480-175323-9**
**Date Collected: 09/17/20 09:30**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 10 | 550342 | 09/21/20 15:13 | CRL | TAL BUF |

# Lab Chronicle

Client: LaBella Associates DPC
Job ID: 480-175323-1
Project/Site: Former Emerson Street Landfill Project

## Client Sample ID: LAB-SBW-15-09172020 40
**Lab Sample ID: 480-175323-10**
**Date Collected: 09/17/20 11:10**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 10 | 550523 | 09/22/20 16:15 | RJF | TAL BUF |

## Client Sample ID: BD-GW-09172020
**Lab Sample ID: 480-175323-11**
**Date Collected: 09/17/20 00:00**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 5 | 550523 | 09/22/20 16:39 | RJF | TAL BUF |

## Client Sample ID: TRIP BLANK-09172020
**Lab Sample ID: 480-175323-12**
**Date Collected: 09/17/20 08:00**
**Matrix: Water**
**Date Received: 09/18/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 1 | 550523 | 09/22/20 17:03 | RJF | TAL BUF |

**Laboratory References:**

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

# Accreditation/Certification Summary

Client: LaBella Associates DPC
Job ID: 480-175323-1
Project/Site: Former Emerson Street Landfill Project

## Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| New York | NELAP | 10026 | 04-01-21 |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte |
|---|---|---|---|
| SM 3500 FE D | | Water | Ferrous Iron |

# Method Summary

Client: LaBella Associates DPC
Job ID: 480-175323-1
Project/Site: Former Emerson Street Landfill Project

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260C | Volatile Organic Compounds by GC/MS | SW846 | TAL BUF |
| RSK-175 | Dissolved Gases (GC) | RSK | TAL BUF |
| 353.2 | Nitrate | EPA | TAL BUF |
| 353.2 | Nitrogen, Nitrite | MCAWW | TAL BUF |
| 9056A | Anions, Ion Chromatography | SW846 | TAL BUF |
| SM 3500 FE D | Iron, Ferrous and Ferric | SM | TAL BUF |
| SM 4500 S2 F | Sulfide, Total | SM | TAL BUF |
| 5030C | Purge and Trap | SW846 | TAL BUF |

**Protocol References:**

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

# Sample Summary

Client: LaBella Associates DPC
Job ID: 480-175323-1
Project/Site: Former Emerson Street Landfill Project

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---|---|---|---|---|---|
| 480-175323-1 | LAB-SBW-19-09162020 35 | Water | 09/16/20 11:05 | 09/18/20 10:00 | |
| 480-175323-2 | LAB-SBW-19-09162020 47 | Water | 09/16/20 12:40 | 09/18/20 10:00 | |
| 480-175323-3 | LAB-SBW-18-09162020 38 | Water | 09/16/20 11:15 | 09/18/20 10:00 | |
| 480-175323-4 | LAB-SBW-18-09162020 47 | Water | 09/16/20 13:25 | 09/18/20 10:00 | |
| 480-175323-5 | LAB-SBW-17-09162020 42 | Water | 09/16/20 15:45 | 09/18/20 10:00 | |
| 480-175323-6 | LAB-SBW-17-09162020 52 | Water | 09/16/20 17:00 | 09/18/20 10:00 | |
| 480-175323-7 | LAB-SBW-16-09172020 33 | Water | 09/17/20 09:20 | 09/18/20 10:00 | |
| 480-175323-8 | LAB-SBW-16-09172020 44 | Water | 09/17/20 11:15 | 09/18/20 10:00 | |
| 480-175323-9 | LAB-SBW-15-09172020 28 | Water | 09/17/20 09:30 | 09/18/20 10:00 | |
| 480-175323-10 | LAB-SBW-15-09172020 40 | Water | 09/17/20 11:10 | 09/18/20 10:00 | |
| 480-175323-11 | BD-GW-09172020 | Water | 09/17/20 00:00 | 09/18/20 10:00 | |
| 480-175323-12 | TRIP BLANK-09172020 | Water | 09/17/20 08:00 | 09/18/20 10:00 | |

**Eurofins TestAmerica, Buffalo**
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

# Chain of Custody Record

eurofins | Environment Testing America

| Client Information | Sampler: Katherine Tharp | Lab PM: Fischer, Brian J | Carrier Tracking No(s): | COC No: 480-150410-25355.1 |
|---|---|---|---|---|
| Client Contact: Mr. Allan Engelbert | Phone: 585-208-3438 | E-Mail: Brian.Fischer@Eurofinset.com | | Page: Page 1 of 2 |
| Company: LaBella Associates DPC | | | | Job #: |
| Address: 300 State Street Suite 201 | Due Date Requested: | | | |
| City: Rochester | TAT Requested (days): Standard | | | |
| State, Zip: NY, 14614 | | | | |
| Phone: 585-295-6289(Tel) | PO #: 210173 | | | |
| Email: aengelbert@labellapc.com | WO #: | | | |
| Project Name: Former Emerson Street Landfill Project | Project #: 48016058 | | | |
| Site: | SSOW#: | | | |

**Analysis Requested**

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA

480-175323 Chain of Custody

| Sample Identification | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 9056A_28D - Chloride & Sulfate | 353.2, 353.2_Nitrite, Nitrate_Calc | RSK_175 - Ethane & Ethene | SM4500_S2_F - Sulfide | 3500_FE_D - Ferrous Iron | 8260C - TCL VOCs + TICs | Total | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Preservation Code: | | | | N | N | A | CB | N | A | | |
| LAB-SBW-19-09162020(35) | 9/16/2020 | 1105 | G | Water | | | X | X | X | X | X | | 7 | |
| LAB-SBW-19-09162020(47) | 9/16/2020 | 1240 | | Water | | | X | X | X | X | X | | 7 | |
| LAB-SBW-18-09162020(38) | 9/16/2020 | 1115 | | Water | | | X | X | X | X | X | | 7 | |
| LAB-SBW-18-09162020(47) | 9/16/2020 | 1325 | | Water | | | X | X | X | X | X | | 7 | |
| LAB-SBW-17-09162020(42) | 9/16/2020 | 1545 | | Water | | | X | X | X | X | X | | 7 | |
| LAB-SBW-17-09162020(52) | 9/16/2020 | 1700 | | Water | | | X | X | X | X | X | | 7 | |
| ~~EMX-MW-3-09162020~~ | ~~9/16/2020~~ | | | ~~Water~~ | | | | | | | | X | | KT |
| ~~EMX-MW-3-09162020~~ | ~~9/16/2020~~ | | | ~~Water~~ | | | | | | | | X | | KT |
| LAB-SBW-16-09172020(33) | 9/17/2020 | 920 | | Water | | | | | | | | X | 3 | |
| LAB-SBW-16-09172020(44) | 9/17/2020 | 1115 | | Water | | | | | | | | X | 3 | |
| LAB-SBW-15-09172020(28) | 9/17/2020 | 0930 | ↓ | Water | | | | | | | | X | 9 | MS/MSD |

**Possible Hazard Identification**
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

**Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)**
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

| Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: |
|---|---|---|---|

| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |
|---|---|---|---|---|---|
| | 9/17/2020 1300 | LaBella | | 9/18/20 1000 | TA |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.7 #1 ICE

Ver: 01/16/2019

**Eurofins TestAmerica, Buffalo**
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

# Chain of Custody Record

eurofins | Environment Testing America

| Client Information | Sampler: Katherine Thiers | Lab PM: Fischer, Brian J | Carrier Tracking No(s): | COC No: 480-150410-25355.2 |
|---|---|---|---|---|
| Client Contact: Mr. Allan Engelbert | Phone: 585-204-3438 | E-Mail: Brian.Fischer@Eurofinset.com | | Page: Page 2 of 2 |
| Company: LaBella Associates DPC | | | | Job #: |

| Address: 300 State Street Suite 201 | Due Date Requested: | Analysis Requested |
|---|---|---|
| City: Rochester | TAT Requested (days): Standard | |
| State, Zip: NY, 14614 | | |
| Phone: 585-295-6289(Tel) | PO #: 210173 | |
| Email: aengelbert@labellapc.com | WO #: | |
| Project Name: Former Emerson Street Landfill Project | Project #: 48016058 | |
| Site: | SSOW#: | |

**Preservation Codes:**

| | |
|---|---|
| A - HCL | M - Hexane |
| B - NaOH | N - None |
| C - Zn Acetate | O - AsNaO2 |
| D - Nitric Acid | P - Na2O4S |
| E - NaHSO4 | Q - Na2SO3 |
| F - MeOH | R - Na2S2O3 |
| G - Amchlor | S - H2SO4 |
| H - Ascorbic Acid | T - TSP Dodecahydrate |
| I - Ice | U - Acetone |
| J - DI Water | V - MCAA |
| K - EDTA | W - pH 4-5 |
| L - EDA | Z - other (specify) |

Other:

| Sample Identification | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 9056A_28D - Chloride & Sulfate | 353.2, 353.2_Nitrite, Nitrate_Calc | RSK_175 - Ethane & Ethene | SM4500_S2_F - Sulfide | 3500_FE_D - Ferrous Iron | 8260C - TCL VOCs + TICs | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Preservation Code: | | | | N | N | A | CB | N | A | | |
| LAB-SBW-15-09172020 (40) | 9/17/2020 | 1110 | G | Water | | | | | | | | X | 3 | |
| BD-GW-09172020 | 9/17/2020 | — | G | Water | | | | | | | | X | 3 | |
| Trip-Blank-09172020 | 9/17/2020 | 0800 | G | Water | | | | | | | | X | 2 | |
| | | | | Water | | | | | | | | | | |
| | | | | Water | | | | | | | | | | |
| | | | | Water | | | | | | | | | | |
| | | | | Water | | | | | | | | | | |
| | | | | Water | | | | | | | | | | |
| | | | | Water | | | | | | | | | | |
| | | | | | | | | | | | | | | |

**Possible Hazard Identification**
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

**Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)**
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

| Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: |
|---|---|---|---|

| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |
|---|---|---|---|---|---|
| | 9/17/2020 1307 | LaBella | [illegible] | 9/18/20 [illegible] | TA |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |

| Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: |
|---|---|---|

Ver: 01/16/2019

# Login Sample Receipt Checklist

Client: LaBella Associates DPC

Job Number: 480-175323-1

**Login Number: 175323**
**List Number: 1**
**Creator: Wallace, Cameron**

**List Source: Eurofins TestAmerica, Buffalo**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs).. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | LABELLA |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | True | |
| Chlorine Residual checked. | N/A | |

eurofins | Environment Testing America

# ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-175214-1
Client Project/Site: Former Emerson Street Landfill Project

For:
LaBella Associates DPC
300 State Street
Suite 201
Rochester, New York 14614

Attn: Ann Aquilina Barber

*Authorized for release by:*
*9/17/2020 10:03:43 PM*
Rebecca Jones, Project Management Assistant I
Rebecca.Jones@Eurofinset.com

Designee for

Brian Fischer, Manager of Project Management
(716)504-9835
Brian.Fischer@Eurofinset.com

# Table of Contents

# Definitions/Glossary

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| B | Compound was found in the blank and sample. |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### GC/MS VOA TICs

| Qualifier | Qualifier Description |
|---|---|
| J | Indicates an Estimated Value for TICs |
| N | Presumptive evidence of material. |
| T | Result is  a tentatively identified compound (TIC) and an estimated value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CFU | Colony Forming Unit |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MCL | EPA recommended "Maximum Contaminant Level" |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MPN | Most Probable Number |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| NEG | Negative / Absent |
| POS | Positive / Present |
| PQL | Practical Quantitation Limit |
| PRES | Presumptive |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

## Job ID: 480-175214-1

### Laboratory: Eurofins TestAmerica, Buffalo

**Narrative**

**Job Narrative**
**480-175214-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 9/17/2020 10:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.6º C.

**GC/MS VOA**
Method 8260C: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: LAB-SBW-19-09162020 (35) (480-175214-5), LAB-SBW-19-09162020 (47) (480-175214-7) and LAB-SBW-17-09162020 (42) (480-175214-8). Elevated reporting limits (RLs) are provided.

Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: LAB-SBW-18-091620 (38) (480-175214-2), GMX-MW-3-09162020 (28) (480-175214-3), GMX-MW-3-09162020 (30) (480-175214-4) and LAB-SBW-18-09162020 (42) (480-175214-6). Elevated reporting limits (RLs) are provided.

Method 8260C: The method blank for analytical batch analytical batch 480-549880 contained Methylene Chloride below the reporting limit (RL). This compound is considered a common laboratory contaminant. The associated sample(s) was not re-extracted and/or re-analyzed because the concentration of the common lab contaminant in the samples was similar to the concentration in the method blank. The following samples are impacted: LAB-SBW-18-091620 (38) (480-175214-2), GMX-MW-3-09162020 (28) (480-175214-3), GMX-MW-3-09162020 (30) (480-175214-4), LAB-SBW-19-09162020 (35) (480-175214-5), LAB-SBW-18-09162020 (42) (480-175214-6), LAB-SBW-19-09162020 (47) (480-175214-7), LAB-SBW-17-09162020 (42) (480-175214-8) and LAB-SBW-17-09162020 (52) (480-175214-9).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

## Client Sample ID: TRIP BLANK — Lab Sample ID: 480-175214-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Methylene Chloride | 1.2 | B | 1.0 | 0.44 | ug/L | 1 | | 8260C | Total/NA |

## Client Sample ID: LAB-SBW-18-091620 (38) — Lab Sample ID: 480-175214-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 2.9 | J | 4.0 | 1.5 | ug/L | 4 | | 8260C | Total/NA |
| 2-Butanone (MEK) | 8.8 | J | 40 | 5.3 | ug/L | 4 | | 8260C | Total/NA |
| Benzene | 15 | | 4.0 | 1.6 | ug/L | 4 | | 8260C | Total/NA |
| Chloroethane | 68 | | 4.0 | 1.3 | ug/L | 4 | | 8260C | Total/NA |
| Methyl tert-butyl ether | 61 | | 4.0 | 0.64 | ug/L | 4 | | 8260C | Total/NA |
| Methylcyclohexane | 0.74 | J | 4.0 | 0.64 | ug/L | 4 | | 8260C | Total/NA |
| Methylene Chloride | 4.9 | B | 4.0 | 1.8 | ug/L | 4 | | 8260C | Total/NA |

## Client Sample ID: GMX-MW-3-09162020 (28) — Lab Sample ID: 480-175214-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 2-Butanone (MEK) | 6.9 | J | 40 | 5.3 | ug/L | 4 | | 8260C | Total/NA |
| Benzene | 12 | | 4.0 | 1.6 | ug/L | 4 | | 8260C | Total/NA |
| Chloroethane | 150 | | 4.0 | 1.3 | ug/L | 4 | | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 5.2 | | 4.0 | 3.2 | ug/L | 4 | | 8260C | Total/NA |
| Methyl tert-butyl ether | 67 | | 4.0 | 0.64 | ug/L | 4 | | 8260C | Total/NA |
| Methylene Chloride | 3.4 | J B | 4.0 | 1.8 | ug/L | 4 | | 8260C | Total/NA |
| Toluene | 2.2 | J | 4.0 | 2.0 | ug/L | 4 | | 8260C | Total/NA |
| Vinyl chloride | 15 | | 4.0 | 3.6 | ug/L | 4 | | 8260C | Total/NA |

## Client Sample ID: GMX-MW-3-09162020 (30) — Lab Sample ID: 480-175214-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 2-Butanone (MEK) | 5.8 | J | 40 | 5.3 | ug/L | 4 | | 8260C | Total/NA |
| Benzene | 12 | | 4.0 | 1.6 | ug/L | 4 | | 8260C | Total/NA |
| Chloroethane | 160 | | 4.0 | 1.3 | ug/L | 4 | | 8260C | Total/NA |
| Cyclohexane | 2.1 | J | 4.0 | 0.72 | ug/L | 4 | | 8260C | Total/NA |
| Isopropylbenzene | 3.5 | J | 4.0 | 3.2 | ug/L | 4 | | 8260C | Total/NA |
| Methyl tert-butyl ether | 66 | | 4.0 | 0.64 | ug/L | 4 | | 8260C | Total/NA |
| Methylcyclohexane | 2.9 | J | 4.0 | 0.64 | ug/L | 4 | | 8260C | Total/NA |
| Methylene Chloride | 3.7 | J B | 4.0 | 1.8 | ug/L | 4 | | 8260C | Total/NA |
| Vinyl chloride | 7.3 | | 4.0 | 3.6 | ug/L | 4 | | 8260C | Total/NA |

## Client Sample ID: LAB-SBW-19-09162020 (35) — Lab Sample ID: 480-175214-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 4.3 | | 4.0 | 1.5 | ug/L | 4 | | 8260C | Total/NA |
| 2-Butanone (MEK) | 8.7 | J | 40 | 5.3 | ug/L | 4 | | 8260C | Total/NA |
| Methyl tert-butyl ether | 4.3 | | 4.0 | 0.64 | ug/L | 4 | | 8260C | Total/NA |
| Methylene Chloride | 5.4 | B | 4.0 | 1.8 | ug/L | 4 | | 8260C | Total/NA |

## Client Sample ID: LAB-SBW-18-09162020 (42) — Lab Sample ID: 480-175214-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 3.9 | J | 4.0 | 1.5 | ug/L | 4 | | 8260C | Total/NA |
| Benzene | 18 | | 4.0 | 1.6 | ug/L | 4 | | 8260C | Total/NA |
| Chloroethane | 74 | | 4.0 | 1.3 | ug/L | 4 | | 8260C | Total/NA |
| Methyl tert-butyl ether | 63 | | 4.0 | 0.64 | ug/L | 4 | | 8260C | Total/NA |

This Detection Summary does not include radiochemical test results.

## Client Sample ID: LAB-SBW-18-09162020 (42) (Continued)
## Lab Sample ID: 480-175214-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Methylcyclohexane | 1.6 | J | 4.0 | 0.64 | ug/L | 4 | | 8260C | Total/NA |
| Methylene Chloride | 3.5 | J B | 4.0 | 1.8 | ug/L | 4 | | 8260C | Total/NA |

## Client Sample ID: LAB-SBW-19-09162020 (47)
## Lab Sample ID: 480-175214-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 3.4 | J | 4.0 | 1.5 | ug/L | 4 | | 8260C | Total/NA |
| Chloroethane | 1.4 | J | 4.0 | 1.3 | ug/L | 4 | | 8260C | Total/NA |
| Methyl tert-butyl ether | 2.2 | J | 4.0 | 0.64 | ug/L | 4 | | 8260C | Total/NA |
| Methylene Chloride | 3.9 | J B | 4.0 | 1.8 | ug/L | 4 | | 8260C | Total/NA |

## Client Sample ID: LAB-SBW-17-09162020 (42)
## Lab Sample ID: 480-175214-8

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 15 | | 2.0 | 0.76 | ug/L | 2 | | 8260C | Total/NA |
| Benzene | 2.4 | | 2.0 | 0.82 | ug/L | 2 | | 8260C | Total/NA |
| Carbon disulfide | 2.0 | | 2.0 | 0.38 | ug/L | 2 | | 8260C | Total/NA |
| Chloroethane | 5.6 | | 2.0 | 0.64 | ug/L | 2 | | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 8.1 | | 2.0 | 1.6 | ug/L | 2 | | 8260C | Total/NA |
| Methyl tert-butyl ether | 7.0 | | 2.0 | 0.32 | ug/L | 2 | | 8260C | Total/NA |
| Methylene Chloride | 1.3 | J B | 2.0 | 0.88 | ug/L | 2 | | 8260C | Total/NA |
| trans-1,2-Dichloroethene | 2.0 | | 2.0 | 1.8 | ug/L | 2 | | 8260C | Total/NA |
| Vinyl chloride | 5.5 | | 2.0 | 1.8 | ug/L | 2 | | 8260C | Total/NA |

## Client Sample ID: LAB-SBW-17-09162020 (52)
## Lab Sample ID: 480-175214-9

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.95 | J | 1.0 | 0.31 | ug/L | 1 | | 8260C | Total/NA |
| 1,1-Dichloroethane | 14 | | 1.0 | 0.38 | ug/L | 1 | | 8260C | Total/NA |
| Carbon disulfide | 0.32 | J | 1.0 | 0.19 | ug/L | 1 | | 8260C | Total/NA |
| Chloroethane | 1.2 | | 1.0 | 0.32 | ug/L | 1 | | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 2.8 | | 1.0 | 0.81 | ug/L | 1 | | 8260C | Total/NA |
| Methyl tert-butyl ether | 0.27 | J | 1.0 | 0.16 | ug/L | 1 | | 8260C | Total/NA |
| Methylene Chloride | 0.52 | J B | 1.0 | 0.44 | ug/L | 1 | | 8260C | Total/NA |
| trans-1,2-Dichloroethene | 2.1 | | 1.0 | 0.90 | ug/L | 1 | | 8260C | Total/NA |
| Trichloroethene | 1.2 | | 1.0 | 0.46 | ug/L | 1 | | 8260C | Total/NA |
| Vinyl chloride | 1.5 | | 1.0 | 0.90 | ug/L | 1 | | 8260C | Total/NA |

This Detection Summary does not include radiochemical test results.

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

**Client Sample ID: TRIP BLANK**
**Lab Sample ID: 480-175214-1**
**Date Collected: 09/16/20 08:00**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

**Method: 8260C - Volatile Organic Compounds by GC/MS**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.0 | 0.82 | ug/L | | | 09/17/20 12:03 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/17/20 12:03 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | 0.23 | ug/L | | | 09/17/20 12:03 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.0 | 0.31 | ug/L | | | 09/17/20 12:03 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | 0.38 | ug/L | | | 09/17/20 12:03 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | 0.29 | ug/L | | | 09/17/20 12:03 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.41 | ug/L | | | 09/17/20 12:03 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 1.0 | 0.39 | ug/L | | | 09/17/20 12:03 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/17/20 12:03 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/17/20 12:03 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | 0.72 | ug/L | | | 09/17/20 12:03 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | 0.78 | ug/L | | | 09/17/20 12:03 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | 0.84 | ug/L | | | 09/17/20 12:03 | 1 |
| 2-Butanone (MEK) | ND | | 10 | 1.3 | ug/L | | | 09/17/20 12:03 | 1 |
| 2-Hexanone | ND | | 5.0 | 1.2 | ug/L | | | 09/17/20 12:03 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | 2.1 | ug/L | | | 09/17/20 12:03 | 1 |
| Acetone | ND | | 10 | 3.0 | ug/L | | | 09/17/20 12:03 | 1 |
| Benzene | ND | | 1.0 | 0.41 | ug/L | | | 09/17/20 12:03 | 1 |
| Bromodichloromethane | ND | | 1.0 | 0.39 | ug/L | | | 09/17/20 12:03 | 1 |
| Bromoform | ND | | 1.0 | 0.26 | ug/L | | | 09/17/20 12:03 | 1 |
| Bromomethane | ND | | 1.0 | 0.69 | ug/L | | | 09/17/20 12:03 | 1 |
| Carbon disulfide | ND | | 1.0 | 0.19 | ug/L | | | 09/17/20 12:03 | 1 |
| Carbon tetrachloride | ND | | 1.0 | 0.27 | ug/L | | | 09/17/20 12:03 | 1 |
| Chlorobenzene | ND | | 1.0 | 0.75 | ug/L | | | 09/17/20 12:03 | 1 |
| Dibromochloromethane | ND | | 1.0 | 0.32 | ug/L | | | 09/17/20 12:03 | 1 |
| Chloroethane | ND | | 1.0 | 0.32 | ug/L | | | 09/17/20 12:03 | 1 |
| Chloroform | ND | | 1.0 | 0.34 | ug/L | | | 09/17/20 12:03 | 1 |
| Chloromethane | ND | | 1.0 | 0.35 | ug/L | | | 09/17/20 12:03 | 1 |
| cis-1,2-Dichloroethene | ND | | 1.0 | 0.81 | ug/L | | | 09/17/20 12:03 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | 0.36 | ug/L | | | 09/17/20 12:03 | 1 |
| Cyclohexane | ND | | 1.0 | 0.18 | ug/L | | | 09/17/20 12:03 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | 0.68 | ug/L | | | 09/17/20 12:03 | 1 |
| Ethylbenzene | ND | | 1.0 | 0.74 | ug/L | | | 09/17/20 12:03 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | 0.73 | ug/L | | | 09/17/20 12:03 | 1 |
| Isopropylbenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/17/20 12:03 | 1 |
| Methyl acetate | ND | | 2.5 | 1.3 | ug/L | | | 09/17/20 12:03 | 1 |
| Methyl tert-butyl ether | ND | | 1.0 | 0.16 | ug/L | | | 09/17/20 12:03 | 1 |
| Methylcyclohexane | ND | | 1.0 | 0.16 | ug/L | | | 09/17/20 12:03 | 1 |
| **Methylene Chloride** | **1.2** | **B** | 1.0 | 0.44 | ug/L | | | 09/17/20 12:03 | 1 |
| Styrene | ND | | 1.0 | 0.73 | ug/L | | | 09/17/20 12:03 | 1 |
| Tetrachloroethene | ND | | 1.0 | 0.36 | ug/L | | | 09/17/20 12:03 | 1 |
| Toluene | ND | | 1.0 | 0.51 | ug/L | | | 09/17/20 12:03 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | 0.90 | ug/L | | | 09/17/20 12:03 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | 0.37 | ug/L | | | 09/17/20 12:03 | 1 |
| Trichloroethene | ND | | 1.0 | 0.46 | ug/L | | | 09/17/20 12:03 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | 0.88 | ug/L | | | 09/17/20 12:03 | 1 |
| Vinyl chloride | ND | | 1.0 | 0.90 | ug/L | | | 09/17/20 12:03 | 1 |
| Xylenes, Total | ND | | 2.0 | 0.66 | ug/L | | | 09/17/20 12:03 | 1 |

## Client Sample ID: TRIP BLANK
**Lab Sample ID: 480-175214-1**

**Date Collected: 09/16/20 08:00**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

| Tentatively Identified Compound | Est. Result | Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tentatively Identified Compound | None | | ug/L | | | | | 09/17/20 12:03 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 101 | | 80 - 120 | | 09/17/20 12:03 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 112 | | 77 - 120 | | 09/17/20 12:03 | 1 |
| 4-Bromofluorobenzene (Surr) | 107 | | 73 - 120 | | 09/17/20 12:03 | 1 |
| Dibromofluoromethane (Surr) | 115 | | 75 - 123 | | 09/17/20 12:03 | 1 |

## Client Sample ID: LAB-SBW-18-091620 (38)
**Lab Sample ID: 480-175214-2**

**Date Collected: 09/16/20 11:15**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 4.0 | 3.3 | ug/L | | | 09/17/20 15:40 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/17/20 15:40 | 4 |
| 1,1,2-Trichloroethane | ND | | 4.0 | 0.92 | ug/L | | | 09/17/20 15:40 | 4 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 4.0 | 1.2 | ug/L | | | 09/17/20 15:40 | 4 |
| **1,1-Dichloroethane** | **2.9** | **J** | 4.0 | 1.5 | ug/L | | | 09/17/20 15:40 | 4 |
| 1,1-Dichloroethene | ND | | 4.0 | 1.2 | ug/L | | | 09/17/20 15:40 | 4 |
| 1,2,4-Trichlorobenzene | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 15:40 | 4 |
| 1,2-Dibromo-3-Chloropropane | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 15:40 | 4 |
| 1,2-Dichlorobenzene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 15:40 | 4 |
| 1,2-Dichloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/17/20 15:40 | 4 |
| 1,2-Dichloropropane | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 15:40 | 4 |
| 1,3-Dichlorobenzene | ND | | 4.0 | 3.1 | ug/L | | | 09/17/20 15:40 | 4 |
| 1,4-Dichlorobenzene | ND | | 4.0 | 3.4 | ug/L | | | 09/17/20 15:40 | 4 |
| **2-Butanone (MEK)** | **8.8** | **J** | 40 | 5.3 | ug/L | | | 09/17/20 15:40 | 4 |
| 2-Hexanone | ND | | 20 | 5.0 | ug/L | | | 09/17/20 15:40 | 4 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 20 | 8.4 | ug/L | | | 09/17/20 15:40 | 4 |
| Acetone | ND | | 40 | 12 | ug/L | | | 09/17/20 15:40 | 4 |
| **Benzene** | **15** | | 4.0 | 1.6 | ug/L | | | 09/17/20 15:40 | 4 |
| Bromodichloromethane | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 15:40 | 4 |
| Bromoform | ND | | 4.0 | 1.0 | ug/L | | | 09/17/20 15:40 | 4 |
| Bromomethane | ND | | 4.0 | 2.8 | ug/L | | | 09/17/20 15:40 | 4 |
| Carbon disulfide | ND | | 4.0 | 0.76 | ug/L | | | 09/17/20 15:40 | 4 |
| Carbon tetrachloride | ND | | 4.0 | 1.1 | ug/L | | | 09/17/20 15:40 | 4 |
| Chlorobenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/17/20 15:40 | 4 |
| Dibromochloromethane | ND | | 4.0 | 1.3 | ug/L | | | 09/17/20 15:40 | 4 |
| **Chloroethane** | **68** | | 4.0 | 1.3 | ug/L | | | 09/17/20 15:40 | 4 |
| Chloroform | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 15:40 | 4 |
| Chloromethane | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 15:40 | 4 |
| cis-1,2-Dichloroethene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 15:40 | 4 |
| cis-1,3-Dichloropropene | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 15:40 | 4 |
| Cyclohexane | ND | | 4.0 | 0.72 | ug/L | | | 09/17/20 15:40 | 4 |
| Dichlorodifluoromethane | ND | | 4.0 | 2.7 | ug/L | | | 09/17/20 15:40 | 4 |
| Ethylbenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/17/20 15:40 | 4 |
| 1,2-Dibromoethane | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 15:40 | 4 |
| Isopropylbenzene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 15:40 | 4 |
| Methyl acetate | ND | | 10 | 5.2 | ug/L | | | 09/17/20 15:40 | 4 |
| **Methyl tert-butyl ether** | **61** | | 4.0 | 0.64 | ug/L | | | 09/17/20 15:40 | 4 |

## Client Sample ID: LAB-SBW-18-091620 (38)
**Lab Sample ID: 480-175214-2**

**Date Collected: 09/16/20 11:15**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Methylcyclohexane** | **0.74** | **J** | 4.0 | 0.64 | ug/L | | | 09/17/20 15:40 | 4 |
| **Methylene Chloride** | **4.9** | **B** | 4.0 | 1.8 | ug/L | | | 09/17/20 15:40 | 4 |
| Styrene | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 15:40 | 4 |
| Tetrachloroethene | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 15:40 | 4 |
| Toluene | ND | | 4.0 | 2.0 | ug/L | | | 09/17/20 15:40 | 4 |
| trans-1,2-Dichloroethene | ND | | 4.0 | 3.6 | ug/L | | | 09/17/20 15:40 | 4 |
| trans-1,3-Dichloropropene | ND | | 4.0 | 1.5 | ug/L | | | 09/17/20 15:40 | 4 |
| Trichloroethene | ND | | 4.0 | 1.8 | ug/L | | | 09/17/20 15:40 | 4 |
| Trichlorofluoromethane | ND | | 4.0 | 3.5 | ug/L | | | 09/17/20 15:40 | 4 |
| Vinyl chloride | ND | | 4.0 | 3.6 | ug/L | | | 09/17/20 15:40 | 4 |
| Xylenes, Total | ND | | 8.0 | 2.6 | ug/L | | | 09/17/20 15:40 | 4 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Unknown* | *13* | *T J* | *ug/L* | | *2.64* | | | *09/17/20 15:40* | *4* |
| *Unknown* | *13* | *T J* | *ug/L* | | *9.46* | | | *09/17/20 15:40* | *4* |
| *Unknown* | *14* | *T J* | *ug/L* | | *11.18* | | | *09/17/20 15:40* | *4* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *98* | | *80 - 120* | | *09/17/20 15:40* | *4* |
| *1,2-Dichloroethane-d4 (Surr)* | *110* | | *77 - 120* | | *09/17/20 15:40* | *4* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *73 - 120* | | *09/17/20 15:40* | *4* |
| *Dibromofluoromethane (Surr)* | *104* | | *75 - 123* | | *09/17/20 15:40* | *4* |

## Client Sample ID: GMX-MW-3-09162020 (28)
**Lab Sample ID: 480-175214-3**

**Date Collected: 09/16/20 15:05**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 4.0 | 3.3 | ug/L | | | 09/17/20 16:03 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/17/20 16:03 | 4 |
| 1,1,2-Trichloroethane | ND | | 4.0 | 0.92 | ug/L | | | 09/17/20 16:03 | 4 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 4.0 | 1.2 | ug/L | | | 09/17/20 16:03 | 4 |
| 1,1-Dichloroethane | ND | | 4.0 | 1.5 | ug/L | | | 09/17/20 16:03 | 4 |
| 1,1-Dichloroethene | ND | | 4.0 | 1.2 | ug/L | | | 09/17/20 16:03 | 4 |
| 1,2,4-Trichlorobenzene | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 16:03 | 4 |
| 1,2-Dibromo-3-Chloropropane | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 16:03 | 4 |
| 1,2-Dichlorobenzene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 16:03 | 4 |
| 1,2-Dichloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/17/20 16:03 | 4 |
| 1,2-Dichloropropane | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 16:03 | 4 |
| 1,3-Dichlorobenzene | ND | | 4.0 | 3.1 | ug/L | | | 09/17/20 16:03 | 4 |
| 1,4-Dichlorobenzene | ND | | 4.0 | 3.4 | ug/L | | | 09/17/20 16:03 | 4 |
| **2-Butanone (MEK)** | **6.9** | **J** | 40 | 5.3 | ug/L | | | 09/17/20 16:03 | 4 |
| 2-Hexanone | ND | | 20 | 5.0 | ug/L | | | 09/17/20 16:03 | 4 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 20 | 8.4 | ug/L | | | 09/17/20 16:03 | 4 |
| Acetone | ND | | 40 | 12 | ug/L | | | 09/17/20 16:03 | 4 |
| **Benzene** | **12** | | 4.0 | 1.6 | ug/L | | | 09/17/20 16:03 | 4 |
| Bromodichloromethane | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 16:03 | 4 |
| Bromoform | ND | | 4.0 | 1.0 | ug/L | | | 09/17/20 16:03 | 4 |
| Bromomethane | ND | | 4.0 | 2.8 | ug/L | | | 09/17/20 16:03 | 4 |

## Client Sample ID: GMX-MW-3-09162020 (28)
**Lab Sample ID: 480-175214-3**

**Date Collected: 09/16/20 15:05**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | ND | | 4.0 | 0.76 | ug/L | | | 09/17/20 16:03 | 4 |
| Carbon tetrachloride | ND | | 4.0 | 1.1 | ug/L | | | 09/17/20 16:03 | 4 |
| Chlorobenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/17/20 16:03 | 4 |
| Dibromochloromethane | ND | | 4.0 | 1.3 | ug/L | | | 09/17/20 16:03 | 4 |
| **Chloroethane** | **150** | | 4.0 | 1.3 | ug/L | | | 09/17/20 16:03 | 4 |
| Chloroform | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 16:03 | 4 |
| Chloromethane | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 16:03 | 4 |
| **cis-1,2-Dichloroethene** | **5.2** | | 4.0 | 3.2 | ug/L | | | 09/17/20 16:03 | 4 |
| cis-1,3-Dichloropropene | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 16:03 | 4 |
| Cyclohexane | ND | | 4.0 | 0.72 | ug/L | | | 09/17/20 16:03 | 4 |
| Dichlorodifluoromethane | ND | | 4.0 | 2.7 | ug/L | | | 09/17/20 16:03 | 4 |
| Ethylbenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/17/20 16:03 | 4 |
| 1,2-Dibromoethane | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 16:03 | 4 |
| Isopropylbenzene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 16:03 | 4 |
| Methyl acetate | ND | | 10 | 5.2 | ug/L | | | 09/17/20 16:03 | 4 |
| **Methyl tert-butyl ether** | **67** | | 4.0 | 0.64 | ug/L | | | 09/17/20 16:03 | 4 |
| Methylcyclohexane | ND | | 4.0 | 0.64 | ug/L | | | 09/17/20 16:03 | 4 |
| **Methylene Chloride** | **3.4** | **J B** | 4.0 | 1.8 | ug/L | | | 09/17/20 16:03 | 4 |
| Styrene | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 16:03 | 4 |
| Tetrachloroethene | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 16:03 | 4 |
| **Toluene** | **2.2** | **J** | 4.0 | 2.0 | ug/L | | | 09/17/20 16:03 | 4 |
| trans-1,2-Dichloroethene | ND | | 4.0 | 3.6 | ug/L | | | 09/17/20 16:03 | 4 |
| trans-1,3-Dichloropropene | ND | | 4.0 | 1.5 | ug/L | | | 09/17/20 16:03 | 4 |
| Trichloroethene | ND | | 4.0 | 1.8 | ug/L | | | 09/17/20 16:03 | 4 |
| Trichlorofluoromethane | ND | | 4.0 | 3.5 | ug/L | | | 09/17/20 16:03 | 4 |
| **Vinyl chloride** | **15** | | 4.0 | 3.6 | ug/L | | | 09/17/20 16:03 | 4 |
| Xylenes, Total | ND | | 8.0 | 2.6 | ug/L | | | 09/17/20 16:03 | 4 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Ethyl ether* | *13* | *T J N* | *ug/L* | | *2.65* | *60-29-7* | | *09/17/20 16:03* | *4* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *80 - 120* | | *09/17/20 16:03* | *4* |
| *1,2-Dichloroethane-d4 (Surr)* | *111* | | *77 - 120* | | *09/17/20 16:03* | *4* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *73 - 120* | | *09/17/20 16:03* | *4* |
| *Dibromofluoromethane (Surr)* | *101* | | *75 - 123* | | *09/17/20 16:03* | *4* |

## Client Sample ID: GMX-MW-3-09162020 (30)
**Lab Sample ID: 480-175214-4**

**Date Collected: 09/16/20 16:00**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 4.0 | 3.3 | ug/L | | | 09/17/20 16:27 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/17/20 16:27 | 4 |
| 1,1,2-Trichloroethane | ND | | 4.0 | 0.92 | ug/L | | | 09/17/20 16:27 | 4 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 4.0 | 1.2 | ug/L | | | 09/17/20 16:27 | 4 |
| 1,1-Dichloroethane | ND | | 4.0 | 1.5 | ug/L | | | 09/17/20 16:27 | 4 |
| 1,1-Dichloroethene | ND | | 4.0 | 1.2 | ug/L | | | 09/17/20 16:27 | 4 |
| 1,2,4-Trichlorobenzene | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 16:27 | 4 |

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

**Client Sample ID: GMX-MW-3-09162020 (30)**
**Lab Sample ID: 480-175214-4**
**Date Collected: 09/16/20 16:00**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-Chloropropane | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 16:27 | 4 |
| 1,2-Dichlorobenzene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 16:27 | 4 |
| 1,2-Dichloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/17/20 16:27 | 4 |
| 1,2-Dichloropropane | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 16:27 | 4 |
| 1,3-Dichlorobenzene | ND | | 4.0 | 3.1 | ug/L | | | 09/17/20 16:27 | 4 |
| 1,4-Dichlorobenzene | ND | | 4.0 | 3.4 | ug/L | | | 09/17/20 16:27 | 4 |
| **2-Butanone (MEK)** | **5.8** | **J** | 40 | 5.3 | ug/L | | | 09/17/20 16:27 | 4 |
| 2-Hexanone | ND | | 20 | 5.0 | ug/L | | | 09/17/20 16:27 | 4 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 20 | 8.4 | ug/L | | | 09/17/20 16:27 | 4 |
| Acetone | ND | | 40 | 12 | ug/L | | | 09/17/20 16:27 | 4 |
| **Benzene** | **12** | | 4.0 | 1.6 | ug/L | | | 09/17/20 16:27 | 4 |
| Bromodichloromethane | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 16:27 | 4 |
| Bromoform | ND | | 4.0 | 1.0 | ug/L | | | 09/17/20 16:27 | 4 |
| Bromomethane | ND | | 4.0 | 2.8 | ug/L | | | 09/17/20 16:27 | 4 |
| Carbon disulfide | ND | | 4.0 | 0.76 | ug/L | | | 09/17/20 16:27 | 4 |
| Carbon tetrachloride | ND | | 4.0 | 1.1 | ug/L | | | 09/17/20 16:27 | 4 |
| Chlorobenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/17/20 16:27 | 4 |
| Dibromochloromethane | ND | | 4.0 | 1.3 | ug/L | | | 09/17/20 16:27 | 4 |
| **Chloroethane** | **160** | | 4.0 | 1.3 | ug/L | | | 09/17/20 16:27 | 4 |
| Chloroform | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 16:27 | 4 |
| Chloromethane | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 16:27 | 4 |
| cis-1,2-Dichloroethene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 16:27 | 4 |
| cis-1,3-Dichloropropene | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 16:27 | 4 |
| **Cyclohexane** | **2.1** | **J** | 4.0 | 0.72 | ug/L | | | 09/17/20 16:27 | 4 |
| Dichlorodifluoromethane | ND | | 4.0 | 2.7 | ug/L | | | 09/17/20 16:27 | 4 |
| Ethylbenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/17/20 16:27 | 4 |
| 1,2-Dibromoethane | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 16:27 | 4 |
| **Isopropylbenzene** | **3.5** | **J** | 4.0 | 3.2 | ug/L | | | 09/17/20 16:27 | 4 |
| Methyl acetate | ND | | 10 | 5.2 | ug/L | | | 09/17/20 16:27 | 4 |
| **Methyl tert-butyl ether** | **66** | | 4.0 | 0.64 | ug/L | | | 09/17/20 16:27 | 4 |
| **Methylcyclohexane** | **2.9** | **J** | 4.0 | 0.64 | ug/L | | | 09/17/20 16:27 | 4 |
| **Methylene Chloride** | **3.7** | **J B** | 4.0 | 1.8 | ug/L | | | 09/17/20 16:27 | 4 |
| Styrene | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 16:27 | 4 |
| Tetrachloroethene | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 16:27 | 4 |
| Toluene | ND | | 4.0 | 2.0 | ug/L | | | 09/17/20 16:27 | 4 |
| trans-1,2-Dichloroethene | ND | | 4.0 | 3.6 | ug/L | | | 09/17/20 16:27 | 4 |
| trans-1,3-Dichloropropene | ND | | 4.0 | 1.5 | ug/L | | | 09/17/20 16:27 | 4 |
| Trichloroethene | ND | | 4.0 | 1.8 | ug/L | | | 09/17/20 16:27 | 4 |
| Trichlorofluoromethane | ND | | 4.0 | 3.5 | ug/L | | | 09/17/20 16:27 | 4 |
| **Vinyl chloride** | **7.3** | | 4.0 | 3.6 | ug/L | | | 09/17/20 16:27 | 4 |
| Xylenes, Total | ND | | 8.0 | 2.6 | ug/L | | | 09/17/20 16:27 | 4 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Ethyl ether* | *14* | *T J N* | *ug/L* | | *2.65* | *60-29-7* | | *09/17/20 16:27* | *4* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *80 - 120* | | *09/17/20 16:27* | *4* |
| *1,2-Dichloroethane-d4 (Surr)* | *105* | | *77 - 120* | | *09/17/20 16:27* | *4* |
| *4-Bromofluorobenzene (Surr)* | *104* | | *73 - 120* | | *09/17/20 16:27* | *4* |
| *Dibromofluoromethane (Surr)* | *101* | | *75 - 123* | | *09/17/20 16:27* | *4* |

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

**Client Sample ID: LAB-SBW-19-09162020 (35)**
**Lab Sample ID: 480-175214-5**
**Date Collected: 09/16/20 11:05**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

**Method: 8260C - Volatile Organic Compounds by GC/MS**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 4.0 | 3.3 | ug/L | | | 09/17/20 16:51 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/17/20 16:51 | 4 |
| 1,1,2-Trichloroethane | ND | | 4.0 | 0.92 | ug/L | | | 09/17/20 16:51 | 4 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 4.0 | 1.2 | ug/L | | | 09/17/20 16:51 | 4 |
| **1,1-Dichloroethane** | **4.3** | | 4.0 | 1.5 | ug/L | | | 09/17/20 16:51 | 4 |
| 1,1-Dichloroethene | ND | | 4.0 | 1.2 | ug/L | | | 09/17/20 16:51 | 4 |
| 1,2,4-Trichlorobenzene | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 16:51 | 4 |
| 1,2-Dibromo-3-Chloropropane | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 16:51 | 4 |
| 1,2-Dichlorobenzene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 16:51 | 4 |
| 1,2-Dichloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/17/20 16:51 | 4 |
| 1,2-Dichloropropane | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 16:51 | 4 |
| 1,3-Dichlorobenzene | ND | | 4.0 | 3.1 | ug/L | | | 09/17/20 16:51 | 4 |
| 1,4-Dichlorobenzene | ND | | 4.0 | 3.4 | ug/L | | | 09/17/20 16:51 | 4 |
| **2-Butanone (MEK)** | **8.7** | **J** | 40 | 5.3 | ug/L | | | 09/17/20 16:51 | 4 |
| 2-Hexanone | ND | | 20 | 5.0 | ug/L | | | 09/17/20 16:51 | 4 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 20 | 8.4 | ug/L | | | 09/17/20 16:51 | 4 |
| Acetone | ND | | 40 | 12 | ug/L | | | 09/17/20 16:51 | 4 |
| Benzene | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 16:51 | 4 |
| Bromodichloromethane | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 16:51 | 4 |
| Bromoform | ND | | 4.0 | 1.0 | ug/L | | | 09/17/20 16:51 | 4 |
| Bromomethane | ND | | 4.0 | 2.8 | ug/L | | | 09/17/20 16:51 | 4 |
| Carbon disulfide | ND | | 4.0 | 0.76 | ug/L | | | 09/17/20 16:51 | 4 |
| Carbon tetrachloride | ND | | 4.0 | 1.1 | ug/L | | | 09/17/20 16:51 | 4 |
| Chlorobenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/17/20 16:51 | 4 |
| Dibromochloromethane | ND | | 4.0 | 1.3 | ug/L | | | 09/17/20 16:51 | 4 |
| Chloroethane | ND | | 4.0 | 1.3 | ug/L | | | 09/17/20 16:51 | 4 |
| Chloroform | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 16:51 | 4 |
| Chloromethane | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 16:51 | 4 |
| cis-1,2-Dichloroethene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 16:51 | 4 |
| cis-1,3-Dichloropropene | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 16:51 | 4 |
| Cyclohexane | ND | | 4.0 | 0.72 | ug/L | | | 09/17/20 16:51 | 4 |
| Dichlorodifluoromethane | ND | | 4.0 | 2.7 | ug/L | | | 09/17/20 16:51 | 4 |
| Ethylbenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/17/20 16:51 | 4 |
| 1,2-Dibromoethane | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 16:51 | 4 |
| Isopropylbenzene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 16:51 | 4 |
| Methyl acetate | ND | | 10 | 5.2 | ug/L | | | 09/17/20 16:51 | 4 |
| **Methyl tert-butyl ether** | **4.3** | | 4.0 | 0.64 | ug/L | | | 09/17/20 16:51 | 4 |
| Methylcyclohexane | ND | | 4.0 | 0.64 | ug/L | | | 09/17/20 16:51 | 4 |
| **Methylene Chloride** | **5.4** | **B** | 4.0 | 1.8 | ug/L | | | 09/17/20 16:51 | 4 |
| Styrene | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 16:51 | 4 |
| Tetrachloroethene | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 16:51 | 4 |
| Toluene | ND | | 4.0 | 2.0 | ug/L | | | 09/17/20 16:51 | 4 |
| trans-1,2-Dichloroethene | ND | | 4.0 | 3.6 | ug/L | | | 09/17/20 16:51 | 4 |
| trans-1,3-Dichloropropene | ND | | 4.0 | 1.5 | ug/L | | | 09/17/20 16:51 | 4 |
| Trichloroethene | ND | | 4.0 | 1.8 | ug/L | | | 09/17/20 16:51 | 4 |
| Trichlorofluoromethane | ND | | 4.0 | 3.5 | ug/L | | | 09/17/20 16:51 | 4 |
| Vinyl chloride | ND | | 4.0 | 3.6 | ug/L | | | 09/17/20 16:51 | 4 |
| Xylenes, Total | ND | | 8.0 | 2.6 | ug/L | | | 09/17/20 16:51 | 4 |

## Client Sample ID: LAB-SBW-19-09162020 (35)
**Lab Sample ID: 480-175214-5**

**Date Collected: 09/16/20 11:05**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

| Tentatively Identified Compound | Est. Result | Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tentatively Identified Compound | None | | ug/L | | | | | 09/17/20 16:51 | 4 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 102 | | 80 - 120 | | 09/17/20 16:51 | 4 |
| 1,2-Dichloroethane-d4 (Surr) | 111 | | 77 - 120 | | 09/17/20 16:51 | 4 |
| 4-Bromofluorobenzene (Surr) | 103 | | 73 - 120 | | 09/17/20 16:51 | 4 |
| Dibromofluoromethane (Surr) | 108 | | 75 - 123 | | 09/17/20 16:51 | 4 |

## Client Sample ID: LAB-SBW-18-09162020 (42)
**Lab Sample ID: 480-175214-6**

**Date Collected: 09/16/20 13:25**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 4.0 | 3.3 | ug/L | | | 09/17/20 17:15 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/17/20 17:15 | 4 |
| 1,1,2-Trichloroethane | ND | | 4.0 | 0.92 | ug/L | | | 09/17/20 17:15 | 4 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 4.0 | 1.2 | ug/L | | | 09/17/20 17:15 | 4 |
| **1,1-Dichloroethane** | **3.9** | **J** | 4.0 | 1.5 | ug/L | | | 09/17/20 17:15 | 4 |
| 1,1-Dichloroethene | ND | | 4.0 | 1.2 | ug/L | | | 09/17/20 17:15 | 4 |
| 1,2,4-Trichlorobenzene | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 17:15 | 4 |
| 1,2-Dibromo-3-Chloropropane | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 17:15 | 4 |
| 1,2-Dichlorobenzene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 17:15 | 4 |
| 1,2-Dichloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/17/20 17:15 | 4 |
| 1,2-Dichloropropane | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 17:15 | 4 |
| 1,3-Dichlorobenzene | ND | | 4.0 | 3.1 | ug/L | | | 09/17/20 17:15 | 4 |
| 1,4-Dichlorobenzene | ND | | 4.0 | 3.4 | ug/L | | | 09/17/20 17:15 | 4 |
| 2-Butanone (MEK) | ND | | 40 | 5.3 | ug/L | | | 09/17/20 17:15 | 4 |
| 2-Hexanone | ND | | 20 | 5.0 | ug/L | | | 09/17/20 17:15 | 4 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 20 | 8.4 | ug/L | | | 09/17/20 17:15 | 4 |
| Acetone | ND | | 40 | 12 | ug/L | | | 09/17/20 17:15 | 4 |
| **Benzene** | **18** | | 4.0 | 1.6 | ug/L | | | 09/17/20 17:15 | 4 |
| Bromodichloromethane | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 17:15 | 4 |
| Bromoform | ND | | 4.0 | 1.0 | ug/L | | | 09/17/20 17:15 | 4 |
| Bromomethane | ND | | 4.0 | 2.8 | ug/L | | | 09/17/20 17:15 | 4 |
| Carbon disulfide | ND | | 4.0 | 0.76 | ug/L | | | 09/17/20 17:15 | 4 |
| Carbon tetrachloride | ND | | 4.0 | 1.1 | ug/L | | | 09/17/20 17:15 | 4 |
| Chlorobenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/17/20 17:15 | 4 |
| Dibromochloromethane | ND | | 4.0 | 1.3 | ug/L | | | 09/17/20 17:15 | 4 |
| **Chloroethane** | **74** | | 4.0 | 1.3 | ug/L | | | 09/17/20 17:15 | 4 |
| Chloroform | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 17:15 | 4 |
| Chloromethane | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 17:15 | 4 |
| cis-1,2-Dichloroethene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 17:15 | 4 |
| cis-1,3-Dichloropropene | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 17:15 | 4 |
| Cyclohexane | ND | | 4.0 | 0.72 | ug/L | | | 09/17/20 17:15 | 4 |
| Dichlorodifluoromethane | ND | | 4.0 | 2.7 | ug/L | | | 09/17/20 17:15 | 4 |
| Ethylbenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/17/20 17:15 | 4 |
| 1,2-Dibromoethane | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 17:15 | 4 |
| Isopropylbenzene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 17:15 | 4 |
| Methyl acetate | ND | | 10 | 5.2 | ug/L | | | 09/17/20 17:15 | 4 |
| **Methyl tert-butyl ether** | **63** | | 4.0 | 0.64 | ug/L | | | 09/17/20 17:15 | 4 |

## Client Sample ID: LAB-SBW-18-09162020 (42)
**Lab Sample ID: 480-175214-6**

**Date Collected: 09/16/20 13:25**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Methylcyclohexane** | **1.6** | **J** | 4.0 | 0.64 | ug/L | | | 09/17/20 17:15 | 4 |
| **Methylene Chloride** | **3.5** | **J B** | 4.0 | 1.8 | ug/L | | | 09/17/20 17:15 | 4 |
| Styrene | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 17:15 | 4 |
| Tetrachloroethene | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 17:15 | 4 |
| Toluene | ND | | 4.0 | 2.0 | ug/L | | | 09/17/20 17:15 | 4 |
| trans-1,2-Dichloroethene | ND | | 4.0 | 3.6 | ug/L | | | 09/17/20 17:15 | 4 |
| trans-1,3-Dichloropropene | ND | | 4.0 | 1.5 | ug/L | | | 09/17/20 17:15 | 4 |
| Trichloroethene | ND | | 4.0 | 1.8 | ug/L | | | 09/17/20 17:15 | 4 |
| Trichlorofluoromethane | ND | | 4.0 | 3.5 | ug/L | | | 09/17/20 17:15 | 4 |
| Vinyl chloride | ND | | 4.0 | 3.6 | ug/L | | | 09/17/20 17:15 | 4 |
| Xylenes, Total | ND | | 8.0 | 2.6 | ug/L | | | 09/17/20 17:15 | 4 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Unknown* | *14* | *T J* | *ug/L* | | *2.65* | | | *09/17/20 17:15* | *4* |
| *Unknown* | *13* | *T J* | *ug/L* | | *9.46* | | | *09/17/20 17:15* | *4* |
| *Unknown* | *19* | *T J* | *ug/L* | | *11.18* | | | *09/17/20 17:15* | *4* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *80 - 120* | | *09/17/20 17:15* | *4* |
| *1,2-Dichloroethane-d4 (Surr)* | *109* | | *77 - 120* | | *09/17/20 17:15* | *4* |
| *4-Bromofluorobenzene (Surr)* | *104* | | *73 - 120* | | *09/17/20 17:15* | *4* |
| *Dibromofluoromethane (Surr)* | *102* | | *75 - 123* | | *09/17/20 17:15* | *4* |

## Client Sample ID: LAB-SBW-19-09162020 (47)
**Lab Sample ID: 480-175214-7**

**Date Collected: 09/16/20 12:40**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 4.0 | 3.3 | ug/L | | | 09/17/20 17:39 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/17/20 17:39 | 4 |
| 1,1,2-Trichloroethane | ND | | 4.0 | 0.92 | ug/L | | | 09/17/20 17:39 | 4 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 4.0 | 1.2 | ug/L | | | 09/17/20 17:39 | 4 |
| **1,1-Dichloroethane** | **3.4** | **J** | 4.0 | 1.5 | ug/L | | | 09/17/20 17:39 | 4 |
| 1,1-Dichloroethene | ND | | 4.0 | 1.2 | ug/L | | | 09/17/20 17:39 | 4 |
| 1,2,4-Trichlorobenzene | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 17:39 | 4 |
| 1,2-Dibromo-3-Chloropropane | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 17:39 | 4 |
| 1,2-Dichlorobenzene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 17:39 | 4 |
| 1,2-Dichloroethane | ND | | 4.0 | 0.84 | ug/L | | | 09/17/20 17:39 | 4 |
| 1,2-Dichloropropane | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 17:39 | 4 |
| 1,3-Dichlorobenzene | ND | | 4.0 | 3.1 | ug/L | | | 09/17/20 17:39 | 4 |
| 1,4-Dichlorobenzene | ND | | 4.0 | 3.4 | ug/L | | | 09/17/20 17:39 | 4 |
| 2-Butanone (MEK) | ND | | 40 | 5.3 | ug/L | | | 09/17/20 17:39 | 4 |
| 2-Hexanone | ND | | 20 | 5.0 | ug/L | | | 09/17/20 17:39 | 4 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 20 | 8.4 | ug/L | | | 09/17/20 17:39 | 4 |
| Acetone | ND | | 40 | 12 | ug/L | | | 09/17/20 17:39 | 4 |
| Benzene | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 17:39 | 4 |
| Bromodichloromethane | ND | | 4.0 | 1.6 | ug/L | | | 09/17/20 17:39 | 4 |
| Bromoform | ND | | 4.0 | 1.0 | ug/L | | | 09/17/20 17:39 | 4 |
| Bromomethane | ND | | 4.0 | 2.8 | ug/L | | | 09/17/20 17:39 | 4 |

## Client Sample ID: LAB-SBW-19-09162020 (47)
**Lab Sample ID: 480-175214-7**

**Date Collected: 09/16/20 12:40**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | ND | | 4.0 | 0.76 | ug/L | | | 09/17/20 17:39 | 4 |
| Carbon tetrachloride | ND | | 4.0 | 1.1 | ug/L | | | 09/17/20 17:39 | 4 |
| Chlorobenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/17/20 17:39 | 4 |
| Dibromochloromethane | ND | | 4.0 | 1.3 | ug/L | | | 09/17/20 17:39 | 4 |
| **Chloroethane** | **1.4** | **J** | 4.0 | 1.3 | ug/L | | | 09/17/20 17:39 | 4 |
| Chloroform | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 17:39 | 4 |
| Chloromethane | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 17:39 | 4 |
| cis-1,2-Dichloroethene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 17:39 | 4 |
| cis-1,3-Dichloropropene | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 17:39 | 4 |
| Cyclohexane | ND | | 4.0 | 0.72 | ug/L | | | 09/17/20 17:39 | 4 |
| Dichlorodifluoromethane | ND | | 4.0 | 2.7 | ug/L | | | 09/17/20 17:39 | 4 |
| Ethylbenzene | ND | | 4.0 | 3.0 | ug/L | | | 09/17/20 17:39 | 4 |
| 1,2-Dibromoethane | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 17:39 | 4 |
| Isopropylbenzene | ND | | 4.0 | 3.2 | ug/L | | | 09/17/20 17:39 | 4 |
| Methyl acetate | ND | | 10 | 5.2 | ug/L | | | 09/17/20 17:39 | 4 |
| **Methyl tert-butyl ether** | **2.2** | **J** | 4.0 | 0.64 | ug/L | | | 09/17/20 17:39 | 4 |
| Methylcyclohexane | ND | | 4.0 | 0.64 | ug/L | | | 09/17/20 17:39 | 4 |
| **Methylene Chloride** | **3.9** | **J B** | 4.0 | 1.8 | ug/L | | | 09/17/20 17:39 | 4 |
| Styrene | ND | | 4.0 | 2.9 | ug/L | | | 09/17/20 17:39 | 4 |
| Tetrachloroethene | ND | | 4.0 | 1.4 | ug/L | | | 09/17/20 17:39 | 4 |
| Toluene | ND | | 4.0 | 2.0 | ug/L | | | 09/17/20 17:39 | 4 |
| trans-1,2-Dichloroethene | ND | | 4.0 | 3.6 | ug/L | | | 09/17/20 17:39 | 4 |
| trans-1,3-Dichloropropene | ND | | 4.0 | 1.5 | ug/L | | | 09/17/20 17:39 | 4 |
| Trichloroethene | ND | | 4.0 | 1.8 | ug/L | | | 09/17/20 17:39 | 4 |
| Trichlorofluoromethane | ND | | 4.0 | 3.5 | ug/L | | | 09/17/20 17:39 | 4 |
| Vinyl chloride | ND | | 4.0 | 3.6 | ug/L | | | 09/17/20 17:39 | 4 |
| Xylenes, Total | ND | | 8.0 | 2.6 | ug/L | | | 09/17/20 17:39 | 4 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Tentatively Identified Compound* | *None* | | *ug/L* | | | | | *09/17/20 17:39* | *4* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *97* | | *80 - 120* | | *09/17/20 17:39* | *4* |
| *1,2-Dichloroethane-d4 (Surr)* | *106* | | *77 - 120* | | *09/17/20 17:39* | *4* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *73 - 120* | | *09/17/20 17:39* | *4* |
| *Dibromofluoromethane (Surr)* | *101* | | *75 - 123* | | *09/17/20 17:39* | *4* |

## Client Sample ID: LAB-SBW-17-09162020 (42)
**Lab Sample ID: 480-175214-8**

**Date Collected: 09/16/20 15:45**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 2.0 | 1.6 | ug/L | | | 09/17/20 18:03 | 2 |
| 1,1,2,2-Tetrachloroethane | ND | | 2.0 | 0.42 | ug/L | | | 09/17/20 18:03 | 2 |
| 1,1,2-Trichloroethane | ND | | 2.0 | 0.46 | ug/L | | | 09/17/20 18:03 | 2 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 2.0 | 0.62 | ug/L | | | 09/17/20 18:03 | 2 |
| **1,1-Dichloroethane** | **15** | | 2.0 | 0.76 | ug/L | | | 09/17/20 18:03 | 2 |
| 1,1-Dichloroethene | ND | | 2.0 | 0.58 | ug/L | | | 09/17/20 18:03 | 2 |
| 1,2,4-Trichlorobenzene | ND | | 2.0 | 0.82 | ug/L | | | 09/17/20 18:03 | 2 |

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

**Client Sample ID: LAB-SBW-17-09162020 (42)**
**Lab Sample ID: 480-175214-8**
**Date Collected: 09/16/20 15:45**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromo-3-Chloropropane | ND | | 2.0 | 0.78 | ug/L | | | 09/17/20 18:03 | 2 |
| 1,2-Dichlorobenzene | ND | | 2.0 | 1.6 | ug/L | | | 09/17/20 18:03 | 2 |
| 1,2-Dichloroethane | ND | | 2.0 | 0.42 | ug/L | | | 09/17/20 18:03 | 2 |
| 1,2-Dichloropropane | ND | | 2.0 | 1.4 | ug/L | | | 09/17/20 18:03 | 2 |
| 1,3-Dichlorobenzene | ND | | 2.0 | 1.6 | ug/L | | | 09/17/20 18:03 | 2 |
| 1,4-Dichlorobenzene | ND | | 2.0 | 1.7 | ug/L | | | 09/17/20 18:03 | 2 |
| 2-Butanone (MEK) | ND | | 20 | 2.6 | ug/L | | | 09/17/20 18:03 | 2 |
| 2-Hexanone | ND | | 10 | 2.5 | ug/L | | | 09/17/20 18:03 | 2 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 10 | 4.2 | ug/L | | | 09/17/20 18:03 | 2 |
| Acetone | ND | | 20 | 6.0 | ug/L | | | 09/17/20 18:03 | 2 |
| **Benzene** | **2.4** | | 2.0 | 0.82 | ug/L | | | 09/17/20 18:03 | 2 |
| Bromodichloromethane | ND | | 2.0 | 0.78 | ug/L | | | 09/17/20 18:03 | 2 |
| Bromoform | ND | | 2.0 | 0.52 | ug/L | | | 09/17/20 18:03 | 2 |
| Bromomethane | ND | | 2.0 | 1.4 | ug/L | | | 09/17/20 18:03 | 2 |
| **Carbon disulfide** | **2.0** | | 2.0 | 0.38 | ug/L | | | 09/17/20 18:03 | 2 |
| Carbon tetrachloride | ND | | 2.0 | 0.54 | ug/L | | | 09/17/20 18:03 | 2 |
| Chlorobenzene | ND | | 2.0 | 1.5 | ug/L | | | 09/17/20 18:03 | 2 |
| Dibromochloromethane | ND | | 2.0 | 0.64 | ug/L | | | 09/17/20 18:03 | 2 |
| **Chloroethane** | **5.6** | | 2.0 | 0.64 | ug/L | | | 09/17/20 18:03 | 2 |
| Chloroform | ND | | 2.0 | 0.68 | ug/L | | | 09/17/20 18:03 | 2 |
| Chloromethane | ND | | 2.0 | 0.70 | ug/L | | | 09/17/20 18:03 | 2 |
| **cis-1,2-Dichloroethene** | **8.1** | | 2.0 | 1.6 | ug/L | | | 09/17/20 18:03 | 2 |
| cis-1,3-Dichloropropene | ND | | 2.0 | 0.72 | ug/L | | | 09/17/20 18:03 | 2 |
| Cyclohexane | ND | | 2.0 | 0.36 | ug/L | | | 09/17/20 18:03 | 2 |
| Dichlorodifluoromethane | ND | | 2.0 | 1.4 | ug/L | | | 09/17/20 18:03 | 2 |
| Ethylbenzene | ND | | 2.0 | 1.5 | ug/L | | | 09/17/20 18:03 | 2 |
| 1,2-Dibromoethane | ND | | 2.0 | 1.5 | ug/L | | | 09/17/20 18:03 | 2 |
| Isopropylbenzene | ND | | 2.0 | 1.6 | ug/L | | | 09/17/20 18:03 | 2 |
| Methyl acetate | ND | | 5.0 | 2.6 | ug/L | | | 09/17/20 18:03 | 2 |
| **Methyl tert-butyl ether** | **7.0** | | 2.0 | 0.32 | ug/L | | | 09/17/20 18:03 | 2 |
| Methylcyclohexane | ND | | 2.0 | 0.32 | ug/L | | | 09/17/20 18:03 | 2 |
| **Methylene Chloride** | **1.3** | **J B** | 2.0 | 0.88 | ug/L | | | 09/17/20 18:03 | 2 |
| Styrene | ND | | 2.0 | 1.5 | ug/L | | | 09/17/20 18:03 | 2 |
| Tetrachloroethene | ND | | 2.0 | 0.72 | ug/L | | | 09/17/20 18:03 | 2 |
| Toluene | ND | | 2.0 | 1.0 | ug/L | | | 09/17/20 18:03 | 2 |
| **trans-1,2-Dichloroethene** | **2.0** | | 2.0 | 1.8 | ug/L | | | 09/17/20 18:03 | 2 |
| trans-1,3-Dichloropropene | ND | | 2.0 | 0.74 | ug/L | | | 09/17/20 18:03 | 2 |
| Trichloroethene | ND | | 2.0 | 0.92 | ug/L | | | 09/17/20 18:03 | 2 |
| Trichlorofluoromethane | ND | | 2.0 | 1.8 | ug/L | | | 09/17/20 18:03 | 2 |
| **Vinyl chloride** | **5.5** | | 2.0 | 1.8 | ug/L | | | 09/17/20 18:03 | 2 |
| Xylenes, Total | ND | | 4.0 | 1.3 | ug/L | | | 09/17/20 18:03 | 2 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Tentatively Identified Compound* | *None* | | *ug/L* | | | | | *09/17/20 18:03* | *2* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *80 - 120* | | *09/17/20 18:03* | *2* |
| *1,2-Dichloroethane-d4 (Surr)* | *110* | | *77 - 120* | | *09/17/20 18:03* | *2* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *73 - 120* | | *09/17/20 18:03* | *2* |
| *Dibromofluoromethane (Surr)* | *107* | | *75 - 123* | | *09/17/20 18:03* | *2* |

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

**Client Sample ID: LAB-SBW-17-09162020 (52)**
**Lab Sample ID: 480-175214-9**
**Date Collected: 09/16/20 17:00**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

**Method: 8260C - Volatile Organic Compounds by GC/MS**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.0 | 0.82 | ug/L | | | 09/17/20 18:27 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/17/20 18:27 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | 0.23 | ug/L | | | 09/17/20 18:27 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.95** | **J** | 1.0 | 0.31 | ug/L | | | 09/17/20 18:27 | 1 |
| **1,1-Dichloroethane** | **14** | | 1.0 | 0.38 | ug/L | | | 09/17/20 18:27 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | 0.29 | ug/L | | | 09/17/20 18:27 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.41 | ug/L | | | 09/17/20 18:27 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 1.0 | 0.39 | ug/L | | | 09/17/20 18:27 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/17/20 18:27 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/17/20 18:27 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | 0.72 | ug/L | | | 09/17/20 18:27 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | 0.78 | ug/L | | | 09/17/20 18:27 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | 0.84 | ug/L | | | 09/17/20 18:27 | 1 |
| 2-Butanone (MEK) | ND | | 10 | 1.3 | ug/L | | | 09/17/20 18:27 | 1 |
| 2-Hexanone | ND | | 5.0 | 1.2 | ug/L | | | 09/17/20 18:27 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | 2.1 | ug/L | | | 09/17/20 18:27 | 1 |
| Acetone | ND | | 10 | 3.0 | ug/L | | | 09/17/20 18:27 | 1 |
| Benzene | ND | | 1.0 | 0.41 | ug/L | | | 09/17/20 18:27 | 1 |
| Bromodichloromethane | ND | | 1.0 | 0.39 | ug/L | | | 09/17/20 18:27 | 1 |
| Bromoform | ND | | 1.0 | 0.26 | ug/L | | | 09/17/20 18:27 | 1 |
| Bromomethane | ND | | 1.0 | 0.69 | ug/L | | | 09/17/20 18:27 | 1 |
| **Carbon disulfide** | **0.32** | **J** | 1.0 | 0.19 | ug/L | | | 09/17/20 18:27 | 1 |
| Carbon tetrachloride | ND | | 1.0 | 0.27 | ug/L | | | 09/17/20 18:27 | 1 |
| Chlorobenzene | ND | | 1.0 | 0.75 | ug/L | | | 09/17/20 18:27 | 1 |
| Dibromochloromethane | ND | | 1.0 | 0.32 | ug/L | | | 09/17/20 18:27 | 1 |
| **Chloroethane** | **1.2** | | 1.0 | 0.32 | ug/L | | | 09/17/20 18:27 | 1 |
| Chloroform | ND | | 1.0 | 0.34 | ug/L | | | 09/17/20 18:27 | 1 |
| Chloromethane | ND | | 1.0 | 0.35 | ug/L | | | 09/17/20 18:27 | 1 |
| **cis-1,2-Dichloroethene** | **2.8** | | 1.0 | 0.81 | ug/L | | | 09/17/20 18:27 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | 0.36 | ug/L | | | 09/17/20 18:27 | 1 |
| Cyclohexane | ND | | 1.0 | 0.18 | ug/L | | | 09/17/20 18:27 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | 0.68 | ug/L | | | 09/17/20 18:27 | 1 |
| Ethylbenzene | ND | | 1.0 | 0.74 | ug/L | | | 09/17/20 18:27 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | 0.73 | ug/L | | | 09/17/20 18:27 | 1 |
| Isopropylbenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/17/20 18:27 | 1 |
| Methyl acetate | ND | | 2.5 | 1.3 | ug/L | | | 09/17/20 18:27 | 1 |
| **Methyl tert-butyl ether** | **0.27** | **J** | 1.0 | 0.16 | ug/L | | | 09/17/20 18:27 | 1 |
| Methylcyclohexane | ND | | 1.0 | 0.16 | ug/L | | | 09/17/20 18:27 | 1 |
| **Methylene Chloride** | **0.52** | **J B** | 1.0 | 0.44 | ug/L | | | 09/17/20 18:27 | 1 |
| Styrene | ND | | 1.0 | 0.73 | ug/L | | | 09/17/20 18:27 | 1 |
| Tetrachloroethene | ND | | 1.0 | 0.36 | ug/L | | | 09/17/20 18:27 | 1 |
| Toluene | ND | | 1.0 | 0.51 | ug/L | | | 09/17/20 18:27 | 1 |
| **trans-1,2-Dichloroethene** | **2.1** | | 1.0 | 0.90 | ug/L | | | 09/17/20 18:27 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | 0.37 | ug/L | | | 09/17/20 18:27 | 1 |
| **Trichloroethene** | **1.2** | | 1.0 | 0.46 | ug/L | | | 09/17/20 18:27 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | 0.88 | ug/L | | | 09/17/20 18:27 | 1 |
| **Vinyl chloride** | **1.5** | | 1.0 | 0.90 | ug/L | | | 09/17/20 18:27 | 1 |
| Xylenes, Total | ND | | 2.0 | 0.66 | ug/L | | | 09/17/20 18:27 | 1 |

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

**Client Sample ID: LAB-SBW-17-09162020 (52)**
**Lab Sample ID: 480-175214-9**
**Date Collected: 09/16/20 17:00**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

| Tentatively Identified Compound | Est. Result | Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tentatively Identified Compound | None | | ug/L | | | | | 09/17/20 18:27 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 99 | | 80 - 120 | | 09/17/20 18:27 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 112 | | 77 - 120 | | 09/17/20 18:27 | 1 |
| 4-Bromofluorobenzene (Surr) | 102 | | 73 - 120 | | 09/17/20 18:27 | 1 |
| Dibromofluoromethane (Surr) | 108 | | 75 - 123 | | 09/17/20 18:27 | 1 |

# Surrogate Summary

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Matrix: Water** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | TOL | DCA | BFB | DBFM |
| Lab Sample ID | Client Sample ID | (80-120) | (77-120) | (73-120) | (75-123) |
| 480-175214-1 | TRIP BLANK | 101 | 112 | 107 | 115 |
| 480-175214-2 | LAB-SBW-18-091620 (38) | 98 | 110 | 102 | 104 |
| 480-175214-3 | GMX-MW-3-09162020 (28) | 99 | 111 | 100 | 101 |
| 480-175214-4 | GMX-MW-3-09162020 (30) | 99 | 105 | 104 | 101 |
| 480-175214-5 | LAB-SBW-19-09162020 (35) | 102 | 111 | 103 | 108 |
| 480-175214-6 | LAB-SBW-18-09162020 (42) | 101 | 109 | 104 | 102 |
| 480-175214-7 | LAB-SBW-19-09162020 (47) | 97 | 106 | 98 | 101 |
| 480-175214-8 | LAB-SBW-17-09162020 (42) | 100 | 110 | 101 | 107 |
| 480-175214-9 | LAB-SBW-17-09162020 (52) | 99 | 112 | 102 | 108 |
| LCS 480-549880/5 | Lab Control Sample | 102 | 107 | 106 | 104 |
| MB 480-549880/7 | Method Blank | 101 | 115 | 100 | 114 |

**Surrogate Legend**

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 480-549880/7**
**Matrix: Water**
**Analysis Batch: 549880**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.0 | 0.82 | ug/L | | | 09/17/20 11:04 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/17/20 11:04 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | 0.23 | ug/L | | | 09/17/20 11:04 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.0 | 0.31 | ug/L | | | 09/17/20 11:04 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | 0.38 | ug/L | | | 09/17/20 11:04 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | 0.29 | ug/L | | | 09/17/20 11:04 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.41 | ug/L | | | 09/17/20 11:04 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 1.0 | 0.39 | ug/L | | | 09/17/20 11:04 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/17/20 11:04 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/17/20 11:04 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | 0.72 | ug/L | | | 09/17/20 11:04 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | 0.78 | ug/L | | | 09/17/20 11:04 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | 0.84 | ug/L | | | 09/17/20 11:04 | 1 |
| 2-Butanone (MEK) | ND | | 10 | 1.3 | ug/L | | | 09/17/20 11:04 | 1 |
| 2-Hexanone | ND | | 5.0 | 1.2 | ug/L | | | 09/17/20 11:04 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | 2.1 | ug/L | | | 09/17/20 11:04 | 1 |
| Acetone | ND | | 10 | 3.0 | ug/L | | | 09/17/20 11:04 | 1 |
| Benzene | ND | | 1.0 | 0.41 | ug/L | | | 09/17/20 11:04 | 1 |
| Bromodichloromethane | ND | | 1.0 | 0.39 | ug/L | | | 09/17/20 11:04 | 1 |
| Bromoform | ND | | 1.0 | 0.26 | ug/L | | | 09/17/20 11:04 | 1 |
| Bromomethane | ND | | 1.0 | 0.69 | ug/L | | | 09/17/20 11:04 | 1 |
| Carbon disulfide | ND | | 1.0 | 0.19 | ug/L | | | 09/17/20 11:04 | 1 |
| Carbon tetrachloride | ND | | 1.0 | 0.27 | ug/L | | | 09/17/20 11:04 | 1 |
| Chlorobenzene | ND | | 1.0 | 0.75 | ug/L | | | 09/17/20 11:04 | 1 |
| Dibromochloromethane | ND | | 1.0 | 0.32 | ug/L | | | 09/17/20 11:04 | 1 |
| Chloroethane | ND | | 1.0 | 0.32 | ug/L | | | 09/17/20 11:04 | 1 |
| Chloroform | ND | | 1.0 | 0.34 | ug/L | | | 09/17/20 11:04 | 1 |
| Chloromethane | ND | | 1.0 | 0.35 | ug/L | | | 09/17/20 11:04 | 1 |
| cis-1,2-Dichloroethene | ND | | 1.0 | 0.81 | ug/L | | | 09/17/20 11:04 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | 0.36 | ug/L | | | 09/17/20 11:04 | 1 |
| Cyclohexane | ND | | 1.0 | 0.18 | ug/L | | | 09/17/20 11:04 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | 0.68 | ug/L | | | 09/17/20 11:04 | 1 |
| Ethylbenzene | ND | | 1.0 | 0.74 | ug/L | | | 09/17/20 11:04 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | 0.73 | ug/L | | | 09/17/20 11:04 | 1 |
| Isopropylbenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/17/20 11:04 | 1 |
| Methyl acetate | ND | | 2.5 | 1.3 | ug/L | | | 09/17/20 11:04 | 1 |
| Methyl tert-butyl ether | ND | | 1.0 | 0.16 | ug/L | | | 09/17/20 11:04 | 1 |
| Methylcyclohexane | ND | | 1.0 | 0.16 | ug/L | | | 09/17/20 11:04 | 1 |
| Methylene Chloride | 0.440 | J | 1.0 | 0.44 | ug/L | | | 09/17/20 11:04 | 1 |
| Styrene | ND | | 1.0 | 0.73 | ug/L | | | 09/17/20 11:04 | 1 |
| Tetrachloroethene | ND | | 1.0 | 0.36 | ug/L | | | 09/17/20 11:04 | 1 |
| Toluene | ND | | 1.0 | 0.51 | ug/L | | | 09/17/20 11:04 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | 0.90 | ug/L | | | 09/17/20 11:04 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | 0.37 | ug/L | | | 09/17/20 11:04 | 1 |
| Trichloroethene | ND | | 1.0 | 0.46 | ug/L | | | 09/17/20 11:04 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | 0.88 | ug/L | | | 09/17/20 11:04 | 1 |
| Vinyl chloride | ND | | 1.0 | 0.90 | ug/L | | | 09/17/20 11:04 | 1 |
| Xylenes, Total | ND | | 2.0 | 0.66 | ug/L | | | 09/17/20 11:04 | 1 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 480-549880/7**
**Matrix: Water**
**Analysis Batch: 549880**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Tentatively Identified Compound | MB Est. Result | MB Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tentatively Identified Compound | None | | ug/L | | | | | 09/17/20 11:04 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 101 | | 80 - 120 | | 09/17/20 11:04 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 115 | | 77 - 120 | | 09/17/20 11:04 | 1 |
| 4-Bromofluorobenzene (Surr) | 100 | | 73 - 120 | | 09/17/20 11:04 | 1 |
| Dibromofluoromethane (Surr) | 114 | | 75 - 123 | | 09/17/20 11:04 | 1 |

**Lab Sample ID: LCS 480-549880/5**
**Matrix: Water**
**Analysis Batch: 549880**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 25.0 | 25.4 | | ug/L | | 102 | 73 - 126 |
| 1,1,2,2-Tetrachloroethane | 25.0 | 23.4 | | ug/L | | 94 | 76 - 120 |
| 1,1,2-Trichloroethane | 25.0 | 25.0 | | ug/L | | 100 | 76 - 122 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.0 | 27.9 | | ug/L | | 112 | 61 - 148 |
| 1,1-Dichloroethane | 25.0 | 25.0 | | ug/L | | 100 | 77 - 120 |
| 1,1-Dichloroethene | 25.0 | 25.0 | | ug/L | | 100 | 66 - 127 |
| 1,2,4-Trichlorobenzene | 25.0 | 25.3 | | ug/L | | 101 | 79 - 122 |
| 1,2-Dibromo-3-Chloropropane | 25.0 | 24.5 | | ug/L | | 98 | 56 - 134 |
| 1,2-Dichlorobenzene | 25.0 | 24.9 | | ug/L | | 100 | 80 - 124 |
| 1,2-Dichloroethane | 25.0 | 25.3 | | ug/L | | 101 | 75 - 120 |
| 1,2-Dichloropropane | 25.0 | 25.2 | | ug/L | | 101 | 76 - 120 |
| 1,3-Dichlorobenzene | 25.0 | 25.1 | | ug/L | | 100 | 77 - 120 |
| 1,4-Dichlorobenzene | 25.0 | 25.3 | | ug/L | | 101 | 80 - 120 |
| 2-Butanone (MEK) | 125 | 134 | | ug/L | | 107 | 57 - 140 |
| 2-Hexanone | 125 | 128 | | ug/L | | 102 | 65 - 127 |
| 4-Methyl-2-pentanone (MIBK) | 125 | 120 | | ug/L | | 96 | 71 - 125 |
| Acetone | 125 | 131 | | ug/L | | 105 | 56 - 142 |
| Benzene | 25.0 | 25.4 | | ug/L | | 101 | 71 - 124 |
| Bromodichloromethane | 25.0 | 26.0 | | ug/L | | 104 | 80 - 122 |
| Bromoform | 25.0 | 26.8 | | ug/L | | 107 | 61 - 132 |
| Bromomethane | 25.0 | 23.2 | | ug/L | | 93 | 55 - 144 |
| Carbon disulfide | 25.0 | 23.6 | | ug/L | | 95 | 59 - 134 |
| Carbon tetrachloride | 25.0 | 27.3 | | ug/L | | 109 | 72 - 134 |
| Chlorobenzene | 25.0 | 25.2 | | ug/L | | 101 | 80 - 120 |
| Dibromochloromethane | 25.0 | 26.9 | | ug/L | | 108 | 75 - 125 |
| Chloroethane | 25.0 | 24.2 | | ug/L | | 97 | 69 - 136 |
| Chloroform | 25.0 | 24.8 | | ug/L | | 99 | 73 - 127 |
| Chloromethane | 25.0 | 22.6 | | ug/L | | 91 | 68 - 124 |
| cis-1,2-Dichloroethene | 25.0 | 24.7 | | ug/L | | 99 | 74 - 124 |
| cis-1,3-Dichloropropene | 25.0 | 26.5 | | ug/L | | 106 | 74 - 124 |
| Cyclohexane | 25.0 | 27.0 | | ug/L | | 108 | 59 - 135 |
| Dichlorodifluoromethane | 25.0 | 24.0 | | ug/L | | 96 | 59 - 135 |
| Ethylbenzene | 25.0 | 25.5 | | ug/L | | 102 | 77 - 123 |
| 1,2-Dibromoethane | 25.0 | 25.5 | | ug/L | | 102 | 77 - 120 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 480-549880/5**
**Matrix: Water**
**Analysis Batch: 549880**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Isopropylbenzene | 25.0 | 25.8 | | ug/L | | 103 | 77 - 122 |
| Methyl acetate | 50.0 | 47.0 | | ug/L | | 94 | 74 - 133 |
| Methyl tert-butyl ether | 25.0 | 24.4 | | ug/L | | 98 | 77 - 120 |
| Methylcyclohexane | 25.0 | 28.5 | | ug/L | | 114 | 68 - 134 |
| Methylene Chloride | 25.0 | 22.2 | | ug/L | | 89 | 75 - 124 |
| Styrene | 25.0 | 26.0 | | ug/L | | 104 | 80 - 120 |
| Tetrachloroethene | 25.0 | 25.0 | | ug/L | | 100 | 74 - 122 |
| Toluene | 25.0 | 25.0 | | ug/L | | 100 | 80 - 122 |
| trans-1,2-Dichloroethene | 25.0 | 24.4 | | ug/L | | 98 | 73 - 127 |
| trans-1,3-Dichloropropene | 25.0 | 26.5 | | ug/L | | 106 | 80 - 120 |
| Trichloroethene | 25.0 | 25.0 | | ug/L | | 100 | 74 - 123 |
| Trichlorofluoromethane | 25.0 | 27.5 | | ug/L | | 110 | 62 - 150 |
| Vinyl chloride | 25.0 | 24.8 | | ug/L | | 99 | 65 - 133 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *102* | | *80 - 120* |
| *1,2-Dichloroethane-d4 (Surr)* | *107* | | *77 - 120* |
| *4-Bromofluorobenzene (Surr)* | *106* | | *73 - 120* |
| *Dibromofluoromethane (Surr)* | *104* | | *75 - 123* |

# QC Association Summary

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

## GC/MS VOA

### Analysis Batch: 549880

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-175214-1 | TRIP BLANK | Total/NA | Water | 8260C | |
| 480-175214-2 | LAB-SBW-18-091620 (38) | Total/NA | Water | 8260C | |
| 480-175214-3 | GMX-MW-3-09162020 (28) | Total/NA | Water | 8260C | |
| 480-175214-4 | GMX-MW-3-09162020 (30) | Total/NA | Water | 8260C | |
| 480-175214-5 | LAB-SBW-19-09162020 (35) | Total/NA | Water | 8260C | |
| 480-175214-6 | LAB-SBW-18-09162020 (42) | Total/NA | Water | 8260C | |
| 480-175214-7 | LAB-SBW-19-09162020 (47) | Total/NA | Water | 8260C | |
| 480-175214-8 | LAB-SBW-17-09162020 (42) | Total/NA | Water | 8260C | |
| 480-175214-9 | LAB-SBW-17-09162020 (52) | Total/NA | Water | 8260C | |
| MB 480-549880/7 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-549880/5 | Lab Control Sample | Total/NA | Water | 8260C | |

# Lab Chronicle

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

## Client Sample ID: TRIP BLANK
**Lab Sample ID: 480-175214-1**
**Date Collected: 09/16/20 08:00**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 1 | 549880 | 09/17/20 12:03 | AMM | TAL BUF |

## Client Sample ID: LAB-SBW-18-091620 (38)
**Lab Sample ID: 480-175214-2**
**Date Collected: 09/16/20 11:15**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 4 | 549880 | 09/17/20 15:40 | AMM | TAL BUF |

## Client Sample ID: GMX-MW-3-09162020 (28)
**Lab Sample ID: 480-175214-3**
**Date Collected: 09/16/20 15:05**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 4 | 549880 | 09/17/20 16:03 | AMM | TAL BUF |

## Client Sample ID: GMX-MW-3-09162020 (30)
**Lab Sample ID: 480-175214-4**
**Date Collected: 09/16/20 16:00**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 4 | 549880 | 09/17/20 16:27 | AMM | TAL BUF |

## Client Sample ID: LAB-SBW-19-09162020 (35)
**Lab Sample ID: 480-175214-5**
**Date Collected: 09/16/20 11:05**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 4 | 549880 | 09/17/20 16:51 | AMM | TAL BUF |

## Client Sample ID: LAB-SBW-18-09162020 (42)
**Lab Sample ID: 480-175214-6**
**Date Collected: 09/16/20 13:25**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 4 | 549880 | 09/17/20 17:15 | AMM | TAL BUF |

## Client Sample ID: LAB-SBW-19-09162020 (47)
**Lab Sample ID: 480-175214-7**
**Date Collected: 09/16/20 12:40**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 4 | 549880 | 09/17/20 17:39 | AMM | TAL BUF |

# Lab Chronicle

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

## Client Sample ID: LAB-SBW-17-09162020 (42)
**Lab Sample ID: 480-175214-8**

**Date Collected: 09/16/20 15:45**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 2 | 549880 | 09/17/20 18:03 | AMM | TAL BUF |

## Client Sample ID: LAB-SBW-17-09162020 (52)
**Lab Sample ID: 480-175214-9**

**Date Collected: 09/16/20 17:00**
**Matrix: Water**
**Date Received: 09/17/20 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 1 | 549880 | 09/17/20 18:27 | AMM | TAL BUF |

**Laboratory References:**

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

# Accreditation/Certification Summary

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

## Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| New York | NELAP | 10026 | 04-01-21 |

# Method Summary

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260C | Volatile Organic Compounds by GC/MS | SW846 | TAL BUF |
| 5030C | Purge and Trap | SW846 | TAL BUF |

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

# Sample Summary

Client: LaBella Associates DPC
Job ID: 480-175214-1
Project/Site: Former Emerson Street Landfill Project

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---|---|---|---|---|---|
| 480-175214-1 | TRIP BLANK | Water | 09/16/20 08:00 | 09/17/20 10:00 | |
| 480-175214-2 | LAB-SBW-18-091620 (38) | Water | 09/16/20 11:15 | 09/17/20 10:00 | |
| 480-175214-3 | GMX-MW-3-09162020 (28) | Water | 09/16/20 15:05 | 09/17/20 10:00 | |
| 480-175214-4 | GMX-MW-3-09162020 (30) | Water | 09/16/20 16:00 | 09/17/20 10:00 | |
| 480-175214-5 | LAB-SBW-19-09162020 (35) | Water | 09/16/20 11:05 | 09/17/20 10:00 | |
| 480-175214-6 | LAB-SBW-18-09162020 (42) | Water | 09/16/20 13:25 | 09/17/20 10:00 | |
| 480-175214-7 | LAB-SBW-19-09162020 (47) | Water | 09/16/20 12:40 | 09/17/20 10:00 | |
| 480-175214-8 | LAB-SBW-17-09162020 (42) | Water | 09/16/20 15:45 | 09/17/20 10:00 | |
| 480-175214-9 | LAB-SBW-17-09162020 (52) | Water | 09/16/20 17:00 | 09/17/20 10:00 | |

**Eurofins TestAmerica, Buffalo**
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

# Chain of Custody Record

eurofins | Environment Testing America

| Client Information | Sampler: Katherine Thorn | Lab PM: Fischer, Brian J | Carrier Tracking No(s): | COC No: 480-150610-33429.1 |
|---|---|---|---|---|
| Client Contact: Ann Aquilina Barber | Phone: 585-208-3438 | E-Mail: Brian.Fischer@Eurofinset.com | | Page: Page 1 of 1 |
| Company: LaBella Associates DPC | | | | Job #: |
| Address: 300 State Street Suite 201 | Due Date Requested: 9/18/2020 | | | |
| City: Rochester | TAT Requested (days): 1 TAT | | | |
| State, Zip: NY, 14614 | | | | |
| Phone: 585-295-6289(Tel) | PO #: 210173 | | | |
| Email: aabarber@labellapc.com | WO #: | | | |
| Project Name: Former Emerson Street Landfill Project | Project #: 48016058 | | | |
| Site: | SSOW#: | | | |

**Analysis Requested**

**Preservation Codes:**
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4

480-175214 Chain of Custody

| Sample Identification | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 8260C - TCL VOCs + TICs | Total Num | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|
| | | | Preservation Code: | | | | A | | |
| MP Blank | 9/16/2020 | 800 | G | Water | | | X | 2 | |
| LAB-SBW-18-09162020 (38) | 9/16/2020 | 1185 | G | Water | | | X | 3 | |
| GMX-MW-3-09162020 (28) | 9/16/2020 | 1505 | G | Water | | | X | 3 | |
| GMX-MW-3-09162020 (30) | 9/16/2020 | 1600 | G | | | | X | 3 | |
| LAB-SBW-19-09162020 (35) | 9/16/2020 | 1105 | G | | | | X | 3 | |
| LAB-SBW-18-09162020 (47) | 9/16/2020 | 1325 | G | | | | X | 3 | |
| LAB-SBW-19-09162020 (47) | 9/16/2020 | 1240 | G | | | | X | 3 | |
| LAB-SBW-17-09162020 (42) | 9/16/2020 | 1545 | G | | | | X | 3 | |
| LAB-SBW-17-09162020 (52) | 9/16/2020 | 1700 | G | | | | X | 3 | |
| | | | | | | | | | |
| | | | | | | | | | |

**Possible Hazard Identification**
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

**Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)**
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) equis / cases

Special Instructions/QC Requirements:

| Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: |
|---|---|---|---|

| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |
|---|---|---|---|---|---|
| | 9/16/2020 1800 | LaBella | | 9/17/20 1600 | TA |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |
| Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |

| Custody Seals Intact: ∆ Yes ∆ No | Custody Seal No. | Cooler Temperature(s) °C and Other Remarks: 4.6 #1 ICE |
|---|---|---|

Ver: 01/16/2019



9/17/2020

# Login Sample Receipt Checklist

Client: LaBella Associates DPC

Job Number: 480-175214-1

**Login Number: 175214**

**List Source: Eurofins TestAmerica, Buffalo**

**List Number: 1**

**Creator: Kolb, Chris M**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs).. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | labella |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | True | |
| Chlorine Residual checked. | True | |

eurofins | Environment Testing America

# ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-179432-1
Client Project/Site: Former Emerson Street Landfill Project

For:
LaBella Associates DPC
300 State Street
Suite 201
Rochester, New York 14614

Attn: Ann Aquilina Barber

*Authorized for release by:*
*12/28/2020 11:15:28 AM*
Rebecca Jones, Project Management Assistant I
Rebecca.Jones@Eurofinset.com

Designee for

Brian Fischer, Manager of Project Management
(716)504-9835
Brian.Fischer@Eurofinset.com

# Table of Contents

# Definitions/Glossary

Client: LaBella Associates DPC
Job ID: 480-179432-1
Project/Site: Former Emerson Street Landfill Project

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### General Chemistry

| Qualifier | Qualifier Description |
|---|---|
| H | Sample was prepped or analyzed beyond the specified holding time |
| HF | Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CFU | Colony Forming Unit |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MCL | EPA recommended "Maximum Contaminant Level" |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MPN | Most Probable Number |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| NEG | Negative / Absent |
| POS | Positive / Present |
| PQL | Practical Quantitation Limit |
| PRES | Presumptive |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

## Job ID: 480-179432-1

### Laboratory: Eurofins TestAmerica, Buffalo

**Narrative**

**Job Narrative**
**480-179432-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 12/16/2020 8:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

**GC/MS VOA**
Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: SBW-20- 35 (480-179432-1). Elevated reporting limits (RLs) are provided.

Method 8260C: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: SBW-20- 34 (480-179432-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**HPLC/IC**
Method 9056A: The following samples were diluted to bring the concentration of target analytes within the calibration range: SBW-20- 35 (480-179432-1) and SBW-20- 34 (480-179432-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**GC VOA**
Method RSK-175: The following samples were diluted to bring the concentration of target analytes within the calibration range: SBW-20- 35 (480-179432-1) and SBW-20- 34 (480-179432-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**General Chemistry**
Method SM 3500 FE D: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: SBW-20- 35 (480-179432-1) and SBW-20- 34 (480-179432-2).

Method 353.2: The following sample(s) was received with minimum amount of time remaining on the test. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: SBW-20- 35 (480-179432-1) and SBW-20- 34 (480-179432-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: LaBella Associates DPC
Job ID: 480-179432-1
Project/Site: Former Emerson Street Landfill Project

## Client Sample ID: SBW-20- 35
## Lab Sample ID: 480-179432-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 33 | | 4.0 | 3.3 | ug/L | 4 | | 8260C | Total/NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 16 | | 4.0 | 1.2 | ug/L | 4 | | 8260C | Total/NA |
| 1,1-Dichloroethane | 89 | | 4.0 | 1.5 | ug/L | 4 | | 8260C | Total/NA |
| Benzene | 12 | | 4.0 | 1.6 | ug/L | 4 | | 8260C | Total/NA |
| Chloroethane | 21 | | 4.0 | 1.3 | ug/L | 4 | | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 130 | | 4.0 | 3.2 | ug/L | 4 | | 8260C | Total/NA |
| Methyl tert-butyl ether | 1.2 | J | 4.0 | 0.64 | ug/L | 4 | | 8260C | Total/NA |
| Methylcyclohexane | 0.99 | J | 4.0 | 0.64 | ug/L | 4 | | 8260C | Total/NA |
| Methylene Chloride | 2.6 | J | 4.0 | 1.8 | ug/L | 4 | | 8260C | Total/NA |
| Toluene | 2.8 | J | 4.0 | 2.0 | ug/L | 4 | | 8260C | Total/NA |
| Trichloroethene | 8.6 | | 4.0 | 1.8 | ug/L | 4 | | 8260C | Total/NA |
| Vinyl chloride | 42 | | 4.0 | 3.6 | ug/L | 4 | | 8260C | Total/NA |
| Methane | 2500 | | 88 | 22 | ug/L | 22 | | RSK-175 | Total/NA |
| Nitrate | 0.020 | J H | 0.050 | 0.020 | mg/L as N | 1 | | 353.2 | Total/NA |
| Chloride | 934 | | 5.0 | 2.8 | mg/L | 10 | | 9056A | Total/NA |
| Sulfate | 60.1 | | 20.0 | 3.5 | mg/L | 10 | | 9056A | Total/NA |
| Ferrous Iron | 0.18 | HF | 0.10 | 0.075 | mg/L | 1 | | SM 3500 FE D | Total/NA |
| Sulfide | 1.2 | | 1.0 | 0.67 | mg/L | 1 | | SM 4500 S2 F | Total/NA |

## Client Sample ID: SBW-20- 34
## Lab Sample ID: 480-179432-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 34 | | 4.0 | 1.5 | ug/L | 4 | | 8260C | Total/NA |
| Benzene | 2.9 | J | 4.0 | 1.6 | ug/L | 4 | | 8260C | Total/NA |
| Chloroethane | 4.8 | | 4.0 | 1.3 | ug/L | 4 | | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 19 | | 4.0 | 3.2 | ug/L | 4 | | 8260C | Total/NA |
| Methylcyclohexane | 1.4 | J | 4.0 | 0.64 | ug/L | 4 | | 8260C | Total/NA |
| Methylene Chloride | 2.6 | J | 4.0 | 1.8 | ug/L | 4 | | 8260C | Total/NA |
| Trichloroethene | 3.3 | J | 4.0 | 1.8 | ug/L | 4 | | 8260C | Total/NA |
| Vinyl chloride | 5.6 | | 4.0 | 3.6 | ug/L | 4 | | 8260C | Total/NA |
| Methane | 1100 | | 88 | 22 | ug/L | 22 | | RSK-175 | Total/NA |
| Nitrate | 0.033 | J H | 0.050 | 0.020 | mg/L as N | 1 | | 353.2 | Total/NA |
| Chloride | 1160 | | 10.0 | 5.6 | mg/L | 20 | | 9056A | Total/NA |
| Sulfate | 153 | | 40.0 | 7.0 | mg/L | 20 | | 9056A | Total/NA |
| Ferrous Iron | 0.31 | HF | 0.10 | 0.075 | mg/L | 1 | | SM 3500 FE D | Total/NA |

This Detection Summary does not include radiochemical test results.

Client: LaBella Associates DPC
Job ID: 480-179432-1
Project/Site: Former Emerson Street Landfill Project

**Client Sample ID: SBW-20- 35**
**Lab Sample ID: 480-179432-1**
**Date Collected: 12/14/20 11:14**
**Matrix: Water**
**Date Received: 12/16/20 08:00**

**Method: 8260C - Volatile Organic Compounds by GC/MS**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **1,1,1-Trichloroethane** | **33** | | 4.0 | 3.3 | ug/L | | | 12/18/20 16:14 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | 4.0 | 0.84 | ug/L | | | 12/18/20 16:14 | 4 |
| 1,1,2-Trichloroethane | ND | | 4.0 | 0.92 | ug/L | | | 12/18/20 16:14 | 4 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **16** | | 4.0 | 1.2 | ug/L | | | 12/18/20 16:14 | 4 |
| **1,1-Dichloroethane** | **89** | | 4.0 | 1.5 | ug/L | | | 12/18/20 16:14 | 4 |
| 1,1-Dichloroethene | ND | | 4.0 | 1.2 | ug/L | | | 12/18/20 16:14 | 4 |
| 1,2,4-Trichlorobenzene | ND | | 4.0 | 1.6 | ug/L | | | 12/18/20 16:14 | 4 |
| 1,2-Dibromo-3-Chloropropane | ND | | 4.0 | 1.6 | ug/L | | | 12/18/20 16:14 | 4 |
| 1,2-Dichlorobenzene | ND | | 4.0 | 3.2 | ug/L | | | 12/18/20 16:14 | 4 |
| 1,2-Dichloroethane | ND | | 4.0 | 0.84 | ug/L | | | 12/18/20 16:14 | 4 |
| 1,2-Dichloropropane | ND | | 4.0 | 2.9 | ug/L | | | 12/18/20 16:14 | 4 |
| 1,3-Dichlorobenzene | ND | | 4.0 | 3.1 | ug/L | | | 12/18/20 16:14 | 4 |
| 1,4-Dichlorobenzene | ND | | 4.0 | 3.4 | ug/L | | | 12/18/20 16:14 | 4 |
| 2-Butanone (MEK) | ND | | 40 | 5.3 | ug/L | | | 12/18/20 16:14 | 4 |
| 2-Hexanone | ND | | 20 | 5.0 | ug/L | | | 12/18/20 16:14 | 4 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 20 | 8.4 | ug/L | | | 12/18/20 16:14 | 4 |
| Acetone | ND | | 40 | 12 | ug/L | | | 12/18/20 16:14 | 4 |
| **Benzene** | **12** | | 4.0 | 1.6 | ug/L | | | 12/18/20 16:14 | 4 |
| Bromodichloromethane | ND | | 4.0 | 1.6 | ug/L | | | 12/18/20 16:14 | 4 |
| Bromoform | ND | | 4.0 | 1.0 | ug/L | | | 12/18/20 16:14 | 4 |
| Bromomethane | ND | | 4.0 | 2.8 | ug/L | | | 12/18/20 16:14 | 4 |
| Carbon disulfide | ND | | 4.0 | 0.76 | ug/L | | | 12/18/20 16:14 | 4 |
| Carbon tetrachloride | ND | | 4.0 | 1.1 | ug/L | | | 12/18/20 16:14 | 4 |
| Chlorobenzene | ND | | 4.0 | 3.0 | ug/L | | | 12/18/20 16:14 | 4 |
| Dibromochloromethane | ND | | 4.0 | 1.3 | ug/L | | | 12/18/20 16:14 | 4 |
| **Chloroethane** | **21** | | 4.0 | 1.3 | ug/L | | | 12/18/20 16:14 | 4 |
| Chloroform | ND | | 4.0 | 1.4 | ug/L | | | 12/18/20 16:14 | 4 |
| Chloromethane | ND | | 4.0 | 1.4 | ug/L | | | 12/18/20 16:14 | 4 |
| **cis-1,2-Dichloroethene** | **130** | | 4.0 | 3.2 | ug/L | | | 12/18/20 16:14 | 4 |
| cis-1,3-Dichloropropene | ND | | 4.0 | 1.4 | ug/L | | | 12/18/20 16:14 | 4 |
| Cyclohexane | ND | | 4.0 | 0.72 | ug/L | | | 12/18/20 16:14 | 4 |
| Dichlorodifluoromethane | ND | | 4.0 | 2.7 | ug/L | | | 12/18/20 16:14 | 4 |
| Ethylbenzene | ND | | 4.0 | 3.0 | ug/L | | | 12/18/20 16:14 | 4 |
| 1,2-Dibromoethane | ND | | 4.0 | 2.9 | ug/L | | | 12/18/20 16:14 | 4 |
| Isopropylbenzene | ND | | 4.0 | 3.2 | ug/L | | | 12/18/20 16:14 | 4 |
| Methyl acetate | ND | | 10 | 5.2 | ug/L | | | 12/18/20 16:14 | 4 |
| **Methyl tert-butyl ether** | **1.2** | **J** | 4.0 | 0.64 | ug/L | | | 12/18/20 16:14 | 4 |
| **Methylcyclohexane** | **0.99** | **J** | 4.0 | 0.64 | ug/L | | | 12/18/20 16:14 | 4 |
| **Methylene Chloride** | **2.6** | **J** | 4.0 | 1.8 | ug/L | | | 12/18/20 16:14 | 4 |
| Styrene | ND | | 4.0 | 2.9 | ug/L | | | 12/18/20 16:14 | 4 |
| Tetrachloroethene | ND | | 4.0 | 1.4 | ug/L | | | 12/18/20 16:14 | 4 |
| **Toluene** | **2.8** | **J** | 4.0 | 2.0 | ug/L | | | 12/18/20 16:14 | 4 |
| trans-1,2-Dichloroethene | ND | | 4.0 | 3.6 | ug/L | | | 12/18/20 16:14 | 4 |
| trans-1,3-Dichloropropene | ND | | 4.0 | 1.5 | ug/L | | | 12/18/20 16:14 | 4 |
| **Trichloroethene** | **8.6** | | 4.0 | 1.8 | ug/L | | | 12/18/20 16:14 | 4 |
| Trichlorofluoromethane | ND | | 4.0 | 3.5 | ug/L | | | 12/18/20 16:14 | 4 |
| **Vinyl chloride** | **42** | | 4.0 | 3.6 | ug/L | | | 12/18/20 16:14 | 4 |
| Xylenes, Total | ND | | 8.0 | 2.6 | ug/L | | | 12/18/20 16:14 | 4 |

## Client Sample ID: SBW-20- 35

**Lab Sample ID: 480-179432-1**

**Date Collected: 12/14/20 11:14**

**Matrix: Water**

**Date Received: 12/16/20 08:00**

| Tentatively Identified Compound | Est. Result | Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tentatively Identified Compound | None | | ug/L | | | | | 12/18/20 16:14 | 4 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 101 | | 80 - 120 | | 12/18/20 16:14 | 4 |
| 1,2-Dichloroethane-d4 (Surr) | 104 | | 77 - 120 | | 12/18/20 16:14 | 4 |
| 4-Bromofluorobenzene (Surr) | 104 | | 73 - 120 | | 12/18/20 16:14 | 4 |
| Dibromofluoromethane (Surr) | 107 | | 75 - 123 | | 12/18/20 16:14 | 4 |

### Method: RSK-175 - Dissolved Gases (GC)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Methane** | **2500** | | 88 | 22 | ug/L | | | 12/17/20 18:00 | 22 |
| Ethane | ND | | 170 | 33 | ug/L | | | 12/17/20 18:00 | 22 |
| Ethene | ND | | 150 | 33 | ug/L | | | 12/17/20 18:00 | 22 |

### General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Nitrate** | **0.020** | **J H** | 0.050 | 0.020 | mg/L as N | | | 12/16/20 18:13 | 1 |
| Nitrite | ND | H | 0.050 | 0.020 | mg/L as N | | | 12/16/20 18:13 | 1 |
| **Chloride** | **934** | | 5.0 | 2.8 | mg/L | | | 12/18/20 17:37 | 10 |
| **Sulfate** | **60.1** | | 20.0 | 3.5 | mg/L | | | 12/18/20 17:37 | 10 |
| **Ferrous Iron** | **0.18** | **HF** | 0.10 | 0.075 | mg/L | | | 12/23/20 17:25 | 1 |
| **Sulfide** | **1.2** | | 1.0 | 0.67 | mg/L | | | 12/17/20 17:37 | 1 |

## Client Sample ID: SBW-20- 34

**Lab Sample ID: 480-179432-2**

**Date Collected: 12/14/20 13:07**

**Matrix: Water**

**Date Received: 12/16/20 08:00**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 4.0 | 3.3 | ug/L | | | 12/18/20 16:37 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | 4.0 | 0.84 | ug/L | | | 12/18/20 16:37 | 4 |
| 1,1,2-Trichloroethane | ND | | 4.0 | 0.92 | ug/L | | | 12/18/20 16:37 | 4 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 4.0 | 1.2 | ug/L | | | 12/18/20 16:37 | 4 |
| **1,1-Dichloroethane** | **34** | | 4.0 | 1.5 | ug/L | | | 12/18/20 16:37 | 4 |
| 1,1-Dichloroethene | ND | | 4.0 | 1.2 | ug/L | | | 12/18/20 16:37 | 4 |
| 1,2,4-Trichlorobenzene | ND | | 4.0 | 1.6 | ug/L | | | 12/18/20 16:37 | 4 |
| 1,2-Dibromo-3-Chloropropane | ND | | 4.0 | 1.6 | ug/L | | | 12/18/20 16:37 | 4 |
| 1,2-Dichlorobenzene | ND | | 4.0 | 3.2 | ug/L | | | 12/18/20 16:37 | 4 |
| 1,2-Dichloroethane | ND | | 4.0 | 0.84 | ug/L | | | 12/18/20 16:37 | 4 |
| 1,2-Dichloropropane | ND | | 4.0 | 2.9 | ug/L | | | 12/18/20 16:37 | 4 |
| 1,3-Dichlorobenzene | ND | | 4.0 | 3.1 | ug/L | | | 12/18/20 16:37 | 4 |
| 1,4-Dichlorobenzene | ND | | 4.0 | 3.4 | ug/L | | | 12/18/20 16:37 | 4 |
| 2-Butanone (MEK) | ND | | 40 | 5.3 | ug/L | | | 12/18/20 16:37 | 4 |
| 2-Hexanone | ND | | 20 | 5.0 | ug/L | | | 12/18/20 16:37 | 4 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 20 | 8.4 | ug/L | | | 12/18/20 16:37 | 4 |
| Acetone | ND | | 40 | 12 | ug/L | | | 12/18/20 16:37 | 4 |
| **Benzene** | **2.9** | **J** | 4.0 | 1.6 | ug/L | | | 12/18/20 16:37 | 4 |
| Bromodichloromethane | ND | | 4.0 | 1.6 | ug/L | | | 12/18/20 16:37 | 4 |
| Bromoform | ND | | 4.0 | 1.0 | ug/L | | | 12/18/20 16:37 | 4 |
| Bromomethane | ND | | 4.0 | 2.8 | ug/L | | | 12/18/20 16:37 | 4 |
| Carbon disulfide | ND | | 4.0 | 0.76 | ug/L | | | 12/18/20 16:37 | 4 |

**Client Sample ID: SBW-20- 34**
**Lab Sample ID: 480-179432-2**
**Date Collected: 12/14/20 13:07**
**Matrix: Water**
**Date Received: 12/16/20 08:00**

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Carbon tetrachloride | ND | | 4.0 | 1.1 | ug/L | | | 12/18/20 16:37 | 4 |
| Chlorobenzene | ND | | 4.0 | 3.0 | ug/L | | | 12/18/20 16:37 | 4 |
| Dibromochloromethane | ND | | 4.0 | 1.3 | ug/L | | | 12/18/20 16:37 | 4 |
| **Chloroethane** | **4.8** | | 4.0 | 1.3 | ug/L | | | 12/18/20 16:37 | 4 |
| Chloroform | ND | | 4.0 | 1.4 | ug/L | | | 12/18/20 16:37 | 4 |
| Chloromethane | ND | | 4.0 | 1.4 | ug/L | | | 12/18/20 16:37 | 4 |
| **cis-1,2-Dichloroethene** | **19** | | 4.0 | 3.2 | ug/L | | | 12/18/20 16:37 | 4 |
| cis-1,3-Dichloropropene | ND | | 4.0 | 1.4 | ug/L | | | 12/18/20 16:37 | 4 |
| Cyclohexane | ND | | 4.0 | 0.72 | ug/L | | | 12/18/20 16:37 | 4 |
| Dichlorodifluoromethane | ND | | 4.0 | 2.7 | ug/L | | | 12/18/20 16:37 | 4 |
| Ethylbenzene | ND | | 4.0 | 3.0 | ug/L | | | 12/18/20 16:37 | 4 |
| 1,2-Dibromoethane | ND | | 4.0 | 2.9 | ug/L | | | 12/18/20 16:37 | 4 |
| Isopropylbenzene | ND | | 4.0 | 3.2 | ug/L | | | 12/18/20 16:37 | 4 |
| Methyl acetate | ND | | 10 | 5.2 | ug/L | | | 12/18/20 16:37 | 4 |
| Methyl tert-butyl ether | ND | | 4.0 | 0.64 | ug/L | | | 12/18/20 16:37 | 4 |
| **Methylcyclohexane** | **1.4** | **J** | 4.0 | 0.64 | ug/L | | | 12/18/20 16:37 | 4 |
| **Methylene Chloride** | **2.6** | **J** | 4.0 | 1.8 | ug/L | | | 12/18/20 16:37 | 4 |
| Styrene | ND | | 4.0 | 2.9 | ug/L | | | 12/18/20 16:37 | 4 |
| Tetrachloroethene | ND | | 4.0 | 1.4 | ug/L | | | 12/18/20 16:37 | 4 |
| Toluene | ND | | 4.0 | 2.0 | ug/L | | | 12/18/20 16:37 | 4 |
| trans-1,2-Dichloroethene | ND | | 4.0 | 3.6 | ug/L | | | 12/18/20 16:37 | 4 |
| trans-1,3-Dichloropropene | ND | | 4.0 | 1.5 | ug/L | | | 12/18/20 16:37 | 4 |
| **Trichloroethene** | **3.3** | **J** | 4.0 | 1.8 | ug/L | | | 12/18/20 16:37 | 4 |
| Trichlorofluoromethane | ND | | 4.0 | 3.5 | ug/L | | | 12/18/20 16:37 | 4 |
| **Vinyl chloride** | **5.6** | | 4.0 | 3.6 | ug/L | | | 12/18/20 16:37 | 4 |
| Xylenes, Total | ND | | 8.0 | 2.6 | ug/L | | | 12/18/20 16:37 | 4 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Tentatively Identified Compound* | *None* | | *ug/L* | | | | | *12/18/20 16:37* | *4* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *80 - 120* | | *12/18/20 16:37* | *4* |
| *1,2-Dichloroethane-d4 (Surr)* | *103* | | *77 - 120* | | *12/18/20 16:37* | *4* |
| *4-Bromofluorobenzene (Surr)* | *101* | | *73 - 120* | | *12/18/20 16:37* | *4* |
| *Dibromofluoromethane (Surr)* | *107* | | *75 - 123* | | *12/18/20 16:37* | *4* |

## Method: RSK-175 - Dissolved Gases (GC)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Methane** | **1100** | | 88 | 22 | ug/L | | | 12/17/20 18:19 | 22 |
| Ethane | ND | | 170 | 33 | ug/L | | | 12/17/20 18:19 | 22 |
| Ethene | ND | | 150 | 33 | ug/L | | | 12/17/20 18:19 | 22 |

## General Chemistry

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **Nitrate** | **0.033** | **J H** | 0.050 | 0.020 | mg/L as N | | | 12/16/20 18:14 | 1 |
| Nitrite | ND | H | 0.050 | 0.020 | mg/L as N | | | 12/16/20 18:14 | 1 |
| **Chloride** | **1160** | | 10.0 | 5.6 | mg/L | | | 12/18/20 17:51 | 20 |
| **Sulfate** | **153** | | 40.0 | 7.0 | mg/L | | | 12/18/20 17:51 | 20 |
| **Ferrous Iron** | **0.31** | **HF** | 0.10 | 0.075 | mg/L | | | 12/23/20 17:25 | 1 |
| Sulfide | ND | | 1.0 | 0.67 | mg/L | | | 12/17/20 17:37 | 1 |

# Surrogate Summary

Client: LaBella Associates DPC
Job ID: 480-179432-1
Project/Site: Former Emerson Street Landfill Project

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Matrix: Water** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | TOL | DCA | BFB | DBFM |
| Lab Sample ID | Client Sample ID | (80-120) | (77-120) | (73-120) | (75-123) |
| 480-179432-1 | SBW-20- 35 | 101 | 104 | 104 | 107 |
| 480-179432-2 | SBW-20- 34 | 100 | 103 | 101 | 107 |
| LCS 480-563775/5 | Lab Control Sample | 101 | 102 | 104 | 106 |
| MB 480-563775/7 | Method Blank | 101 | 102 | 102 | 104 |

**Surrogate Legend**

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 480-563775/7**
**Matrix: Water**
**Analysis Batch: 563775**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.0 | 0.82 | ug/L | | | 12/18/20 11:02 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | 0.21 | ug/L | | | 12/18/20 11:02 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | 0.23 | ug/L | | | 12/18/20 11:02 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.0 | 0.31 | ug/L | | | 12/18/20 11:02 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | 0.38 | ug/L | | | 12/18/20 11:02 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | 0.29 | ug/L | | | 12/18/20 11:02 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.41 | ug/L | | | 12/18/20 11:02 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 1.0 | 0.39 | ug/L | | | 12/18/20 11:02 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | 0.79 | ug/L | | | 12/18/20 11:02 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | 0.21 | ug/L | | | 12/18/20 11:02 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | 0.72 | ug/L | | | 12/18/20 11:02 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | 0.78 | ug/L | | | 12/18/20 11:02 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | 0.84 | ug/L | | | 12/18/20 11:02 | 1 |
| 2-Butanone (MEK) | ND | | 10 | 1.3 | ug/L | | | 12/18/20 11:02 | 1 |
| 2-Hexanone | ND | | 5.0 | 1.2 | ug/L | | | 12/18/20 11:02 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | 2.1 | ug/L | | | 12/18/20 11:02 | 1 |
| Acetone | ND | | 10 | 3.0 | ug/L | | | 12/18/20 11:02 | 1 |
| Benzene | ND | | 1.0 | 0.41 | ug/L | | | 12/18/20 11:02 | 1 |
| Bromodichloromethane | ND | | 1.0 | 0.39 | ug/L | | | 12/18/20 11:02 | 1 |
| Bromoform | ND | | 1.0 | 0.26 | ug/L | | | 12/18/20 11:02 | 1 |
| Bromomethane | ND | | 1.0 | 0.69 | ug/L | | | 12/18/20 11:02 | 1 |
| Carbon disulfide | ND | | 1.0 | 0.19 | ug/L | | | 12/18/20 11:02 | 1 |
| Carbon tetrachloride | ND | | 1.0 | 0.27 | ug/L | | | 12/18/20 11:02 | 1 |
| Chlorobenzene | ND | | 1.0 | 0.75 | ug/L | | | 12/18/20 11:02 | 1 |
| Dibromochloromethane | ND | | 1.0 | 0.32 | ug/L | | | 12/18/20 11:02 | 1 |
| Chloroethane | ND | | 1.0 | 0.32 | ug/L | | | 12/18/20 11:02 | 1 |
| Chloroform | ND | | 1.0 | 0.34 | ug/L | | | 12/18/20 11:02 | 1 |
| Chloromethane | ND | | 1.0 | 0.35 | ug/L | | | 12/18/20 11:02 | 1 |
| cis-1,2-Dichloroethene | ND | | 1.0 | 0.81 | ug/L | | | 12/18/20 11:02 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | 0.36 | ug/L | | | 12/18/20 11:02 | 1 |
| Cyclohexane | ND | | 1.0 | 0.18 | ug/L | | | 12/18/20 11:02 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | 0.68 | ug/L | | | 12/18/20 11:02 | 1 |
| Ethylbenzene | ND | | 1.0 | 0.74 | ug/L | | | 12/18/20 11:02 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | 0.73 | ug/L | | | 12/18/20 11:02 | 1 |
| Isopropylbenzene | ND | | 1.0 | 0.79 | ug/L | | | 12/18/20 11:02 | 1 |
| Methyl acetate | ND | | 2.5 | 1.3 | ug/L | | | 12/18/20 11:02 | 1 |
| Methyl tert-butyl ether | ND | | 1.0 | 0.16 | ug/L | | | 12/18/20 11:02 | 1 |
| Methylcyclohexane | ND | | 1.0 | 0.16 | ug/L | | | 12/18/20 11:02 | 1 |
| Methylene Chloride | ND | | 1.0 | 0.44 | ug/L | | | 12/18/20 11:02 | 1 |
| Styrene | ND | | 1.0 | 0.73 | ug/L | | | 12/18/20 11:02 | 1 |
| Tetrachloroethene | ND | | 1.0 | 0.36 | ug/L | | | 12/18/20 11:02 | 1 |
| Toluene | ND | | 1.0 | 0.51 | ug/L | | | 12/18/20 11:02 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | 0.90 | ug/L | | | 12/18/20 11:02 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | 0.37 | ug/L | | | 12/18/20 11:02 | 1 |
| Trichloroethene | ND | | 1.0 | 0.46 | ug/L | | | 12/18/20 11:02 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | 0.88 | ug/L | | | 12/18/20 11:02 | 1 |
| Vinyl chloride | ND | | 1.0 | 0.90 | ug/L | | | 12/18/20 11:02 | 1 |
| Xylenes, Total | ND | | 2.0 | 0.66 | ug/L | | | 12/18/20 11:02 | 1 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 480-563775/7**
**Matrix: Water**
**Analysis Batch: 563775**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Tentatively Identified Compound | MB Est. Result | MB Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dioxane | 72.9 | | ug/L | | 6.00 | 123-91-1 | | 12/18/20 11:02 | 1 |
| Tentatively Identified Compound | None | | ug/L | | | | | 12/18/20 11:02 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 101 | | 80 - 120 | | 12/18/20 11:02 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 102 | | 77 - 120 | | 12/18/20 11:02 | 1 |
| 4-Bromofluorobenzene (Surr) | 102 | | 73 - 120 | | 12/18/20 11:02 | 1 |
| Dibromofluoromethane (Surr) | 104 | | 75 - 123 | | 12/18/20 11:02 | 1 |

**Lab Sample ID: LCS 480-563775/5**
**Matrix: Water**
**Analysis Batch: 563775**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 25.0 | 25.4 | | ug/L | | 102 | 73 - 126 |
| 1,1,2,2-Tetrachloroethane | 25.0 | 24.4 | | ug/L | | 97 | 76 - 120 |
| 1,1,2-Trichloroethane | 25.0 | 25.6 | | ug/L | | 102 | 76 - 122 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.0 | 22.5 | | ug/L | | 90 | 61 - 148 |
| 1,1-Dichloroethane | 25.0 | 25.3 | | ug/L | | 101 | 77 - 120 |
| 1,1-Dichloroethene | 25.0 | 26.1 | | ug/L | | 104 | 66 - 127 |
| 1,2,4-Trichlorobenzene | 25.0 | 25.6 | | ug/L | | 102 | 79 - 122 |
| 1,2-Dibromo-3-Chloropropane | 25.0 | 23.8 | | ug/L | | 95 | 56 - 134 |
| 1,2-Dichlorobenzene | 25.0 | 25.1 | | ug/L | | 100 | 80 - 124 |
| 1,2-Dichloroethane | 25.0 | 25.2 | | ug/L | | 101 | 75 - 120 |
| 1,2-Dichloropropane | 25.0 | 24.7 | | ug/L | | 99 | 76 - 120 |
| 1,3-Dichlorobenzene | 25.0 | 24.6 | | ug/L | | 98 | 77 - 120 |
| 1,4-Dichlorobenzene | 25.0 | 24.6 | | ug/L | | 98 | 80 - 120 |
| 2-Butanone (MEK) | 125 | 127 | | ug/L | | 102 | 57 - 140 |
| 2-Hexanone | 125 | 126 | | ug/L | | 101 | 65 - 127 |
| 4-Methyl-2-pentanone (MIBK) | 125 | 124 | | ug/L | | 99 | 71 - 125 |
| Acetone | 125 | 118 | | ug/L | | 94 | 56 - 142 |
| Benzene | 25.0 | 25.3 | | ug/L | | 101 | 71 - 124 |
| Bromodichloromethane | 25.0 | 26.4 | | ug/L | | 106 | 80 - 122 |
| Bromoform | 25.0 | 25.9 | | ug/L | | 104 | 61 - 132 |
| Bromomethane | 25.0 | 24.8 | | ug/L | | 99 | 55 - 144 |
| Carbon disulfide | 25.0 | 23.8 | | ug/L | | 95 | 59 - 134 |
| Carbon tetrachloride | 25.0 | 25.9 | | ug/L | | 104 | 72 - 134 |
| Chlorobenzene | 25.0 | 25.3 | | ug/L | | 101 | 80 - 120 |
| Dibromochloromethane | 25.0 | 26.6 | | ug/L | | 106 | 75 - 125 |
| Chloroethane | 25.0 | 23.3 | | ug/L | | 93 | 69 - 136 |
| Chloroform | 25.0 | 24.4 | | ug/L | | 98 | 73 - 127 |
| Chloromethane | 25.0 | 22.9 | | ug/L | | 92 | 68 - 124 |
| cis-1,2-Dichloroethene | 25.0 | 25.7 | | ug/L | | 103 | 74 - 124 |
| cis-1,3-Dichloropropene | 25.0 | 25.7 | | ug/L | | 103 | 74 - 124 |
| Cyclohexane | 25.0 | 25.8 | | ug/L | | 103 | 59 - 135 |
| Dichlorodifluoromethane | 25.0 | 24.9 | | ug/L | | 100 | 59 - 135 |
| Ethylbenzene | 25.0 | 25.1 | | ug/L | | 100 | 77 - 123 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 480-563775/5**
**Matrix: Water**
**Analysis Batch: 563775**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dibromoethane | 25.0 | 25.8 | | ug/L | | 103 | 77 - 120 |
| Isopropylbenzene | 25.0 | 24.7 | | ug/L | | 99 | 77 - 122 |
| Methyl acetate | 50.0 | 49.2 | | ug/L | | 98 | 74 - 133 |
| Methyl tert-butyl ether | 25.0 | 25.3 | | ug/L | | 101 | 77 - 120 |
| Methylcyclohexane | 25.0 | 26.4 | | ug/L | | 106 | 68 - 134 |
| Methylene Chloride | 25.0 | 24.2 | | ug/L | | 97 | 75 - 124 |
| Styrene | 25.0 | 25.4 | | ug/L | | 101 | 80 - 120 |
| Tetrachloroethene | 25.0 | 27.1 | | ug/L | | 108 | 74 - 122 |
| Toluene | 25.0 | 24.8 | | ug/L | | 99 | 80 - 122 |
| trans-1,2-Dichloroethene | 25.0 | 25.5 | | ug/L | | 102 | 73 - 127 |
| trans-1,3-Dichloropropene | 25.0 | 25.5 | | ug/L | | 102 | 80 - 120 |
| Trichloroethene | 25.0 | 26.0 | | ug/L | | 104 | 74 - 123 |
| Trichlorofluoromethane | 25.0 | 26.2 | | ug/L | | 105 | 62 - 150 |
| Vinyl chloride | 25.0 | 24.7 | | ug/L | | 99 | 65 - 133 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *101* | | *80 - 120* |
| *1,2-Dichloroethane-d4 (Surr)* | *102* | | *77 - 120* |
| *4-Bromofluorobenzene (Surr)* | *104* | | *73 - 120* |
| *Dibromofluoromethane (Surr)* | *106* | | *75 - 123* |

## Method: RSK-175 - Dissolved Gases (GC)

**Lab Sample ID: MB 480-563703/3**
**Matrix: Water**
**Analysis Batch: 563703**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Methane | ND | | 4.0 | 1.0 | ug/L | | | 12/17/20 16:34 | 1 |
| Ethane | ND | | 7.5 | 1.5 | ug/L | | | 12/17/20 16:34 | 1 |
| Ethene | ND | | 7.0 | 1.5 | ug/L | | | 12/17/20 16:34 | 1 |

**Lab Sample ID: LCS 480-563703/4**
**Matrix: Water**
**Analysis Batch: 563703**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Methane | 19.2 | 17.8 | | ug/L | | 93 | 85 - 120 |
| Ethane | 36.8 | 34.3 | | ug/L | | 93 | 79 - 120 |
| Ethene | 33.7 | 33.4 | | ug/L | | 99 | 85 - 120 |

**Lab Sample ID: LCSD 480-563703/5**
**Matrix: Water**
**Analysis Batch: 563703**

**Client Sample ID: Lab Control Sample Dup**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Methane | 19.2 | 19.0 | | ug/L | | 99 | 85 - 120 | 6 | 50 |
| Ethane | 36.8 | 36.3 | | ug/L | | 99 | 79 - 120 | 6 | 50 |
| Ethene | 33.7 | 35.2 | | ug/L | | 104 | 85 - 120 | 5 | 50 |

## Method: 9056A - Anions, Ion Chromatography

**Lab Sample ID: MB 480-563802/28**
**Matrix: Water**
**Analysis Batch: 563802**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | ND | | 0.50 | 0.28 | mg/L | | | 12/18/20 17:22 | 1 |
| Sulfate | ND | | 2.0 | 0.35 | mg/L | | | 12/18/20 17:22 | 1 |

**Lab Sample ID: LCS 480-563802/27**
**Matrix: Water**
**Analysis Batch: 563802**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Chloride | 50.0 | 49.54 | | mg/L | | 99 | 90 - 110 |
| Sulfate | 50.0 | 49.48 | | mg/L | | 99 | 90 - 110 |

## Method: SM 3500 FE D - Iron, Ferrous and Ferric

**Lab Sample ID: MB 480-564507/3**
**Matrix: Water**
**Analysis Batch: 564507**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | ND | | 0.10 | 0.075 | mg/L | | | 12/23/20 17:25 | 1 |

**Lab Sample ID: LCS 480-564507/4**
**Matrix: Water**
**Analysis Batch: 564507**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Ferrous Iron | 2.00 | 1.99 | | mg/L | | 99 | 90 - 110 |

**Lab Sample ID: 480-179432-1 MS**
**Matrix: Water**
**Analysis Batch: 564507**

**Client Sample ID: SBW-20- 35**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | 0.18 | HF | 1.00 | 1.19 | | mg/L | | 101 | 70 - 130 |

**Lab Sample ID: 480-179432-2 MS**
**Matrix: Water**
**Analysis Batch: 564507**

**Client Sample ID: SBW-20- 34**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | 0.31 | HF | 1.00 | 1.35 | | mg/L | | 104 | 70 - 130 |

**Lab Sample ID: 480-179432-1 DU**
**Matrix: Water**
**Analysis Batch: 564507**

**Client Sample ID: SBW-20- 35**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | 0.18 | HF | 0.184 | | mg/L | | 0 | 20 |

## Method: SM 3500 FE D - Iron, Ferrous and Ferric (Continued)

**Lab Sample ID: 480-179432-2 DU**
**Matrix: Water**
**Analysis Batch: 564507**

**Client Sample ID: SBW-20- 34**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | | DU Result | DU Qualifier | Unit | D | | | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ferrous Iron | 0.31 | HF | | 0.323 | | mg/L | | | | 4 | 20 |

## Method: SM 4500 S2 F - Sulfide, Total

**Lab Sample ID: MB 480-563739/3**
**Matrix: Water**
**Analysis Batch: 563739**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Sulfide | ND | | 1.0 | 0.67 | mg/L | | | 12/17/20 17:37 | 1 |

**Lab Sample ID: LCS 480-563739/4**
**Matrix: Water**
**Analysis Batch: 563739**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | | | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfide | | | 9.00 | 9.20 | | mg/L | | 102 | 90 - 110 | | |

**Lab Sample ID: 480-179432-2 MS**
**Matrix: Water**
**Analysis Batch: 563739**

**Client Sample ID: SBW-20- 34**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfide | ND | | 2.30 | 2.80 | | mg/L | | 122 | 40 - 150 | | |

**Lab Sample ID: 480-179432-1 DU**
**Matrix: Water**
**Analysis Batch: 563739**

**Client Sample ID: SBW-20- 35**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | | DU Result | DU Qualifier | Unit | D | | | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sulfide | 1.2 | | | 1.20 | | mg/L | | | | 0 | 20 |

## GC/MS VOA

### Analysis Batch: 563775

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-179432-1 | SBW-20- 35 | Total/NA | Water | 8260C | |
| 480-179432-2 | SBW-20- 34 | Total/NA | Water | 8260C | |
| MB 480-563775/7 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-563775/5 | Lab Control Sample | Total/NA | Water | 8260C | |

## GC VOA

### Analysis Batch: 563703

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-179432-1 | SBW-20- 35 | Total/NA | Water | RSK-175 | |
| 480-179432-2 | SBW-20- 34 | Total/NA | Water | RSK-175 | |
| MB 480-563703/3 | Method Blank | Total/NA | Water | RSK-175 | |
| LCS 480-563703/4 | Lab Control Sample | Total/NA | Water | RSK-175 | |
| LCSD 480-563703/5 | Lab Control Sample Dup | Total/NA | Water | RSK-175 | |

## General Chemistry

### Analysis Batch: 563559

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-179432-1 | SBW-20- 35 | Total/NA | Water | 353.2 | |
| 480-179432-2 | SBW-20- 34 | Total/NA | Water | 353.2 | |

### Analysis Batch: 563561

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-179432-1 | SBW-20- 35 | Total/NA | Water | 353.2 | |
| 480-179432-2 | SBW-20- 34 | Total/NA | Water | 353.2 | |

### Analysis Batch: 563739

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-179432-1 | SBW-20- 35 | Total/NA | Water | SM 4500 S2 F | |
| 480-179432-2 | SBW-20- 34 | Total/NA | Water | SM 4500 S2 F | |
| MB 480-563739/3 | Method Blank | Total/NA | Water | SM 4500 S2 F | |
| LCS 480-563739/4 | Lab Control Sample | Total/NA | Water | SM 4500 S2 F | |
| 480-179432-2 MS | SBW-20- 34 | Total/NA | Water | SM 4500 S2 F | |
| 480-179432-1 DU | SBW-20- 35 | Total/NA | Water | SM 4500 S2 F | |

### Analysis Batch: 563802

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-179432-1 | SBW-20- 35 | Total/NA | Water | 9056A | |
| 480-179432-2 | SBW-20- 34 | Total/NA | Water | 9056A | |
| MB 480-563802/28 | Method Blank | Total/NA | Water | 9056A | |
| LCS 480-563802/27 | Lab Control Sample | Total/NA | Water | 9056A | |

### Analysis Batch: 564507

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-179432-1 | SBW-20- 35 | Total/NA | Water | SM 3500 FE D | |
| 480-179432-2 | SBW-20- 34 | Total/NA | Water | SM 3500 FE D | |
| MB 480-564507/3 | Method Blank | Total/NA | Water | SM 3500 FE D | |
| LCS 480-564507/4 | Lab Control Sample | Total/NA | Water | SM 3500 FE D | |
| 480-179432-1 MS | SBW-20- 35 | Total/NA | Water | SM 3500 FE D | |
| 480-179432-2 MS | SBW-20- 34 | Total/NA | Water | SM 3500 FE D | |
| 480-179432-1 DU | SBW-20- 35 | Total/NA | Water | SM 3500 FE D | |

## General Chemistry (Continued)

### Analysis Batch: 564507 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-179432-2 DU | SBW-20- 34 | Total/NA | Water | SM 3500 FE D | |

# Lab Chronicle

Client: LaBella Associates DPC
Job ID: 480-179432-1
Project/Site: Former Emerson Street Landfill Project

## Client Sample ID: SBW-20- 35
**Lab Sample ID: 480-179432-1**
**Date Collected: 12/14/20 11:14**
**Matrix: Water**
**Date Received: 12/16/20 08:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 4 | 563775 | 12/18/20 16:14 | CRL | TAL BUF |
| Total/NA | Analysis | RSK-175 | | 22 | 563703 | 12/17/20 18:00 | DSC | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 563559 | 12/16/20 18:13 | ALT | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 563561 | 12/16/20 18:13 | ALT | TAL BUF |
| Total/NA | Analysis | 9056A | | 10 | 563802 | 12/18/20 17:37 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 3500 FE D | | 1 | 564507 | 12/23/20 17:25 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4500 S2 F | | 1 | 563739 | 12/17/20 17:37 | MJB | TAL BUF |

## Client Sample ID: SBW-20- 34
**Lab Sample ID: 480-179432-2**
**Date Collected: 12/14/20 13:07**
**Matrix: Water**
**Date Received: 12/16/20 08:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 4 | 563775 | 12/18/20 16:37 | CRL | TAL BUF |
| Total/NA | Analysis | RSK-175 | | 22 | 563703 | 12/17/20 18:19 | DSC | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 563559 | 12/16/20 18:14 | ALT | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 563561 | 12/16/20 18:14 | ALT | TAL BUF |
| Total/NA | Analysis | 9056A | | 20 | 563802 | 12/18/20 17:51 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 3500 FE D | | 1 | 564507 | 12/23/20 17:25 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4500 S2 F | | 1 | 563739 | 12/17/20 17:37 | MJB | TAL BUF |

**Laboratory References:**

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

# Accreditation/Certification Summary

Client: LaBella Associates DPC
Job ID: 480-179432-1
Project/Site: Former Emerson Street Landfill Project

## Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| New York | NELAP | 10026 | 04-01-21 |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte |
|---|---|---|---|
| SM 3500 FE D | | Water | Ferrous Iron |

# Method Summary

Client: LaBella Associates DPC
Job ID: 480-179432-1
Project/Site: Former Emerson Street Landfill Project

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260C | Volatile Organic Compounds by GC/MS | SW846 | TAL BUF |
| RSK-175 | Dissolved Gases (GC) | RSK | TAL BUF |
| 353.2 | Nitrate | EPA | TAL BUF |
| 353.2 | Nitrogen, Nitrite | MCAWW | TAL BUF |
| 9056A | Anions, Ion Chromatography | SW846 | TAL BUF |
| SM 3500 FE D | Iron, Ferrous and Ferric | SM | TAL BUF |
| SM 4500 S2 F | Sulfide, Total | SM | TAL BUF |
| 5030C | Purge and Trap | SW846 | TAL BUF |

**Protocol References:**

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique , RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

# Sample Summary

Client: LaBella Associates DPC
Job ID: 480-179432-1
Project/Site: Former Emerson Street Landfill Project

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---|---|---|---|---|---|
| 480-179432-1 | SBW-20- 35 | Water | 12/14/20 11:14 | 12/16/20 08:00 | |
| 480-179432-2 | SBW-20- 34 | Water | 12/14/20 13:07 | 12/16/20 08:00 | |

**Eurofins TestAmerica, Buffalo**
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

# Chain of Custody Record

eurofins | Environment Testing America

| Client Information | Sampler: Kaneene Thiem | Lab PM: Fischer, Brian J | Carrier Tracking No(s): | COC No: 480-154366-34241.1 |
|---|---|---|---|---|
| Client Contact: Ann Aquilina Barber | Phone: 585-200-3430 | E-Mail: Brian.Fischer@Eurofinset.com | State of Origin: | Page: Page 1 of 1 |
| Company: LaBella Associates DPC | PWSID: | | | Job #: |
| Address: 300 State Street Suite 201 | Due Date Requested: | | | |
| City: Rochester | TAT Requested (days): Standard | | | |
| State, Zip: NY, 14614 | Compliance Project: Δ Yes Δ No | | | |
| Phone: 585-295-6289(Tel) | PO #: 210173 | | | |
| Email: aabarber@labellapc.com | WO #: | | | |
| Project Name: Former Emerson Street Landfill Project | Project #: 48016058 | | | |
| Site: | SSOW#: | | | |

**Analysis Requested**

**Preservation Codes:**

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

| Sample Identification | Sample Date | Sample Time | Sample Type (C=Comp, G=grab) | Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 9056A_28D - Chloride & Sulfate | RSK_175 - Methane, Ethane, Ethene | 8260C - TCL VOCs + TICs | SM4500_S2_F - Sulfide | 353.2, 353.2_Nitrite, Nitrate_Calc | 3500_FE_D - Ferrous Iron | | Total Number of containers | Special Instructions/Note: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Preservation Code: | | | | N | A | A | CB | N | N | | | |
| LOIB-SBW-20(35) | 12/14/2020 | 1114 | G | Water | | | X | X | X | X | X | X | | | |
| LOIS-SBW-206 | 12/14/2020 | 1307 | G | Water | | | X | X | X | X | X | X | | | |

480-179432 Chain of Custody

**Possible Hazard Identification**
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

**Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)**
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

| Empty Kit Relinquished by: | Date: | Time: | Method of Shipment: |
|---|---|---|---|

| | Relinquished by | Date/Time | Company | Received by | Date/Time | Company |
|---|---|---|---|---|---|---|
| | [signature] | 12/15/2020 800 | LaBella | | | |
| | Relinquished by: | Date/Time: | Company | Received by: | Date/Time: | Company |
| | Relinquished by: | Date/Time: | Company | Received by: [signature] | Date/Time: 12/16/20 800 | Company: TMTD |

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.3 #1

Ver: 11/01/2020

# Login Sample Receipt Checklist

Client: LaBella Associates DPC

Job Number: 480-179432-1

**Login Number: 179432**

**List Source: Eurofins TestAmerica, Buffalo**

**List Number: 1**

**Creator: Stopa, Erik S**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs).. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | LABELLA |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | N/A | |
| Chlorine Residual checked. | N/A | |

eurofins | Environment Testing America

# ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-175602-1
Client Project/Site: Former Emerson Street Landfill Project

For:
LaBella Associates DPC
300 State Street
Suite 201
Rochester, New York 14614

Attn: Ann Aquilina Barber

Joseph V. Giacomazza

*Authorized for release by:*
*9/25/2020 4:05:57 PM*
Joe Giacomazza, Project Manager I
joe.giacomazza@testamericainc.com

Designee for

Brian Fischer, Manager of Project Management
(716)504-9835
Brian.Fischer@Eurofinset.com

# Table of Contents

# Definitions/Glossary

Client: LaBella Associates DPC
Job ID: 480-175602-1
Project/Site: Former Emerson Street Landfill Project

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### GC/MS VOA TICs

| Qualifier | Qualifier Description |
|---|---|
| J | Indicates an Estimated Value for TICs |
| T | Result is  a tentatively identified compound (TIC) and an estimated value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CFU | Colony Forming Unit |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MCL | EPA recommended "Maximum Contaminant Level" |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MPN | Most Probable Number |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| NEG | Negative / Absent |
| POS | Positive / Present |
| PQL | Practical Quantitation Limit |
| PRES | Presumptive |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

# Case Narrative

Client: LaBella Associates DPC
Job ID: 480-175602-1
Project/Site: Former Emerson Street Landfill Project

## Job ID: 480-175602-1

### Laboratory: Eurofins TestAmerica, Buffalo

**Narrative**

**Job Narrative**
**480-175602-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 9/24/2020 10:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

**GC/MS VOA**
Method 8260C: The continuing calibration verification (CCVIS) associated with batch 480-551230 recovered above the upper control limit for Carbon tetrachloride and Methylcyclohexane. The samples associated with this CCVIS were non-detect or below the reporting limit (RL) for the affected analytes; therefore, the data have been reported. The associated samples are impacted: LAB-SBW-03 (480-175602-1), LAB-SBW-07 (480-175602-2) and TRIP BLANK-01 (480-175602-3).

Method 8260C: The continuing calibration verification (CCVIS) associated with batch 480-551230 recovered above the upper control limit for 1,1,2-Trichloro-1,2,2-trifluoroethane. The sample associated with this CCVIS was non-detect for the affected analyte; therefore, the data have been reported. The associated sample is impacted: TRIP BLANK-01 (480-175602-3).

Method 8260C: The continuing calibration verification (CCVIS) analyzed in 480-551230 was outside the method criteria for the following analyte: 1,1,2-Trichloro-1,2,2-trifluoroethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated. The associated samples are: LAB-SBW-03 (480-175602-1) and LAB-SBW-07 (480-175602-2).

Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: LAB-SBW-03 (480-175602-1) and LAB-SBW-07 (480-175602-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: LaBella Associates DPC
Job ID: 480-175602-1
Project/Site: Former Emerson Street Landfill Project

## Client Sample ID: LAB-SBW-03 — Lab Sample ID: 480-175602-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 17 | | 5.0 | 4.1 | ug/L | 5 | | 8260C | Total/NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 33 | | 5.0 | 1.6 | ug/L | 5 | | 8260C | Total/NA |
| 1,1-Dichloroethane | 26 | | 5.0 | 1.9 | ug/L | 5 | | 8260C | Total/NA |
| Benzene | 4.2 | J | 5.0 | 2.1 | ug/L | 5 | | 8260C | Total/NA |
| Chloroethane | 12 | | 5.0 | 1.6 | ug/L | 5 | | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 110 | | 5.0 | 4.1 | ug/L | 5 | | 8260C | Total/NA |
| Methylene Chloride | 3.6 | J | 5.0 | 2.2 | ug/L | 5 | | 8260C | Total/NA |
| Tetrachloroethene | 2.0 | J | 5.0 | 1.8 | ug/L | 5 | | 8260C | Total/NA |
| Toluene | 3.1 | J | 5.0 | 2.6 | ug/L | 5 | | 8260C | Total/NA |
| Vinyl chloride | 26 | | 5.0 | 4.5 | ug/L | 5 | | 8260C | Total/NA |

## Client Sample ID: LAB-SBW-07 — Lab Sample ID: 480-175602-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 380 | | 20 | 16 | ug/L | 20 | | 8260C | Total/NA |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 490 | | 20 | 6.2 | ug/L | 20 | | 8260C | Total/NA |
| 1,1-Dichloroethane | 690 | | 20 | 7.6 | ug/L | 20 | | 8260C | Total/NA |
| 1,1-Dichloroethene | 18 | J | 20 | 5.8 | ug/L | 20 | | 8260C | Total/NA |
| Benzene | 12 | J | 20 | 8.2 | ug/L | 20 | | 8260C | Total/NA |
| Chloroethane | 28 | | 20 | 6.4 | ug/L | 20 | | 8260C | Total/NA |
| cis-1,2-Dichloroethene | 880 | | 20 | 16 | ug/L | 20 | | 8260C | Total/NA |
| Ethylbenzene | 23 | | 20 | 15 | ug/L | 20 | | 8260C | Total/NA |
| Methylcyclohexane | 7.5 | J | 20 | 3.2 | ug/L | 20 | | 8260C | Total/NA |
| Methylene Chloride | 11 | J | 20 | 8.8 | ug/L | 20 | | 8260C | Total/NA |
| Tetrachloroethene | 8.5 | J | 20 | 7.2 | ug/L | 20 | | 8260C | Total/NA |
| Toluene | 130 | | 20 | 10 | ug/L | 20 | | 8260C | Total/NA |
| Trichloroethene | 35 | | 20 | 9.2 | ug/L | 20 | | 8260C | Total/NA |
| Vinyl chloride | 490 | | 20 | 18 | ug/L | 20 | | 8260C | Total/NA |
| Xylenes, Total | 120 | | 40 | 13 | ug/L | 20 | | 8260C | Total/NA |

## Client Sample ID: TRIP BLANK-01 — Lab Sample ID: 480-175602-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Methylene Chloride | 0.58 | J | 1.0 | 0.44 | ug/L | 1 | | 8260C | Total/NA |

This Detection Summary does not include radiochemical test results.

Client: LaBella Associates DPC
Job ID: 480-175602-1
Project/Site: Former Emerson Street Landfill Project

**Client Sample ID: LAB-SBW-03**
**Lab Sample ID: 480-175602-1**
**Date Collected: 09/23/20 13:40**
**Matrix: Water**
**Date Received: 09/24/20 10:30**

**Method: 8260C - Volatile Organic Compounds by GC/MS**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **1,1,1-Trichloroethane** | **17** | | 5.0 | 4.1 | ug/L | | | 09/25/20 14:46 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | 5.0 | 1.1 | ug/L | | | 09/25/20 14:46 | 5 |
| 1,1,2-Trichloroethane | ND | | 5.0 | 1.2 | ug/L | | | 09/25/20 14:46 | 5 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **33** | | 5.0 | 1.6 | ug/L | | | 09/25/20 14:46 | 5 |
| **1,1-Dichloroethane** | **26** | | 5.0 | 1.9 | ug/L | | | 09/25/20 14:46 | 5 |
| 1,1-Dichloroethene | ND | | 5.0 | 1.5 | ug/L | | | 09/25/20 14:46 | 5 |
| 1,2,4-Trichlorobenzene | ND | | 5.0 | 2.1 | ug/L | | | 09/25/20 14:46 | 5 |
| 1,2-Dibromo-3-Chloropropane | ND | | 5.0 | 2.0 | ug/L | | | 09/25/20 14:46 | 5 |
| 1,2-Dichlorobenzene | ND | | 5.0 | 4.0 | ug/L | | | 09/25/20 14:46 | 5 |
| 1,2-Dichloroethane | ND | | 5.0 | 1.1 | ug/L | | | 09/25/20 14:46 | 5 |
| 1,2-Dichloropropane | ND | | 5.0 | 3.6 | ug/L | | | 09/25/20 14:46 | 5 |
| 1,3-Dichlorobenzene | ND | | 5.0 | 3.9 | ug/L | | | 09/25/20 14:46 | 5 |
| 1,4-Dichlorobenzene | ND | | 5.0 | 4.2 | ug/L | | | 09/25/20 14:46 | 5 |
| 2-Butanone (MEK) | ND | | 50 | 6.6 | ug/L | | | 09/25/20 14:46 | 5 |
| 2-Hexanone | ND | | 25 | 6.2 | ug/L | | | 09/25/20 14:46 | 5 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 25 | 11 | ug/L | | | 09/25/20 14:46 | 5 |
| Acetone | ND | | 50 | 15 | ug/L | | | 09/25/20 14:46 | 5 |
| **Benzene** | **4.2** | **J** | 5.0 | 2.1 | ug/L | | | 09/25/20 14:46 | 5 |
| Bromodichloromethane | ND | | 5.0 | 2.0 | ug/L | | | 09/25/20 14:46 | 5 |
| Bromoform | ND | | 5.0 | 1.3 | ug/L | | | 09/25/20 14:46 | 5 |
| Bromomethane | ND | | 5.0 | 3.5 | ug/L | | | 09/25/20 14:46 | 5 |
| Carbon disulfide | ND | | 5.0 | 0.95 | ug/L | | | 09/25/20 14:46 | 5 |
| Carbon tetrachloride | ND | | 5.0 | 1.4 | ug/L | | | 09/25/20 14:46 | 5 |
| Chlorobenzene | ND | | 5.0 | 3.8 | ug/L | | | 09/25/20 14:46 | 5 |
| Dibromochloromethane | ND | | 5.0 | 1.6 | ug/L | | | 09/25/20 14:46 | 5 |
| **Chloroethane** | **12** | | 5.0 | 1.6 | ug/L | | | 09/25/20 14:46 | 5 |
| Chloroform | ND | | 5.0 | 1.7 | ug/L | | | 09/25/20 14:46 | 5 |
| Chloromethane | ND | | 5.0 | 1.8 | ug/L | | | 09/25/20 14:46 | 5 |
| **cis-1,2-Dichloroethene** | **110** | | 5.0 | 4.1 | ug/L | | | 09/25/20 14:46 | 5 |
| cis-1,3-Dichloropropene | ND | | 5.0 | 1.8 | ug/L | | | 09/25/20 14:46 | 5 |
| Cyclohexane | ND | | 5.0 | 0.90 | ug/L | | | 09/25/20 14:46 | 5 |
| Dichlorodifluoromethane | ND | | 5.0 | 3.4 | ug/L | | | 09/25/20 14:46 | 5 |
| Ethylbenzene | ND | | 5.0 | 3.7 | ug/L | | | 09/25/20 14:46 | 5 |
| 1,2-Dibromoethane | ND | | 5.0 | 3.7 | ug/L | | | 09/25/20 14:46 | 5 |
| Isopropylbenzene | ND | | 5.0 | 4.0 | ug/L | | | 09/25/20 14:46 | 5 |
| Methyl acetate | ND | | 13 | 6.5 | ug/L | | | 09/25/20 14:46 | 5 |
| Methyl tert-butyl ether | ND | | 5.0 | 0.80 | ug/L | | | 09/25/20 14:46 | 5 |
| Methylcyclohexane | ND | | 5.0 | 0.80 | ug/L | | | 09/25/20 14:46 | 5 |
| **Methylene Chloride** | **3.6** | **J** | 5.0 | 2.2 | ug/L | | | 09/25/20 14:46 | 5 |
| Styrene | ND | | 5.0 | 3.7 | ug/L | | | 09/25/20 14:46 | 5 |
| **Tetrachloroethene** | **2.0** | **J** | 5.0 | 1.8 | ug/L | | | 09/25/20 14:46 | 5 |
| **Toluene** | **3.1** | **J** | 5.0 | 2.6 | ug/L | | | 09/25/20 14:46 | 5 |
| trans-1,2-Dichloroethene | ND | | 5.0 | 4.5 | ug/L | | | 09/25/20 14:46 | 5 |
| trans-1,3-Dichloropropene | ND | | 5.0 | 1.9 | ug/L | | | 09/25/20 14:46 | 5 |
| Trichloroethene | ND | | 5.0 | 2.3 | ug/L | | | 09/25/20 14:46 | 5 |
| Trichlorofluoromethane | ND | | 5.0 | 4.4 | ug/L | | | 09/25/20 14:46 | 5 |
| **Vinyl chloride** | **26** | | 5.0 | 4.5 | ug/L | | | 09/25/20 14:46 | 5 |
| Xylenes, Total | ND | | 10 | 3.3 | ug/L | | | 09/25/20 14:46 | 5 |

## Client Sample ID: LAB-SBW-03

**Lab Sample ID: 480-175602-1**

**Date Collected: 09/23/20 13:40**

**Matrix: Water**

**Date Received: 09/24/20 10:30**

| Tentatively Identified Compound | Est. Result | Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tentatively Identified Compound | None | | ug/L | | | | | 09/25/20 14:46 | 5 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 102 | | 80 - 120 | | 09/25/20 14:46 | 5 |
| 1,2-Dichloroethane-d4 (Surr) | 109 | | 77 - 120 | | 09/25/20 14:46 | 5 |
| 4-Bromofluorobenzene (Surr) | 101 | | 73 - 120 | | 09/25/20 14:46 | 5 |
| Dibromofluoromethane (Surr) | 105 | | 75 - 123 | | 09/25/20 14:46 | 5 |

## Client Sample ID: LAB-SBW-07

**Lab Sample ID: 480-175602-2**

**Date Collected: 09/23/20 15:10**

**Matrix: Water**

**Date Received: 09/24/20 10:30**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| **1,1,1-Trichloroethane** | **380** | | 20 | 16 | ug/L | | | 09/25/20 15:10 | 20 |
| 1,1,2,2-Tetrachloroethane | ND | | 20 | 4.2 | ug/L | | | 09/25/20 15:10 | 20 |
| 1,1,2-Trichloroethane | ND | | 20 | 4.6 | ug/L | | | 09/25/20 15:10 | 20 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **490** | | 20 | 6.2 | ug/L | | | 09/25/20 15:10 | 20 |
| **1,1-Dichloroethane** | **690** | | 20 | 7.6 | ug/L | | | 09/25/20 15:10 | 20 |
| **1,1-Dichloroethene** | **18** | **J** | 20 | 5.8 | ug/L | | | 09/25/20 15:10 | 20 |
| 1,2,4-Trichlorobenzene | ND | | 20 | 8.2 | ug/L | | | 09/25/20 15:10 | 20 |
| 1,2-Dibromo-3-Chloropropane | ND | | 20 | 7.8 | ug/L | | | 09/25/20 15:10 | 20 |
| 1,2-Dichlorobenzene | ND | | 20 | 16 | ug/L | | | 09/25/20 15:10 | 20 |
| 1,2-Dichloroethane | ND | | 20 | 4.2 | ug/L | | | 09/25/20 15:10 | 20 |
| 1,2-Dichloropropane | ND | | 20 | 14 | ug/L | | | 09/25/20 15:10 | 20 |
| 1,3-Dichlorobenzene | ND | | 20 | 16 | ug/L | | | 09/25/20 15:10 | 20 |
| 1,4-Dichlorobenzene | ND | | 20 | 17 | ug/L | | | 09/25/20 15:10 | 20 |
| 2-Butanone (MEK) | ND | | 200 | 26 | ug/L | | | 09/25/20 15:10 | 20 |
| 2-Hexanone | ND | | 100 | 25 | ug/L | | | 09/25/20 15:10 | 20 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 100 | 42 | ug/L | | | 09/25/20 15:10 | 20 |
| Acetone | ND | | 200 | 60 | ug/L | | | 09/25/20 15:10 | 20 |
| **Benzene** | **12** | **J** | 20 | 8.2 | ug/L | | | 09/25/20 15:10 | 20 |
| Bromodichloromethane | ND | | 20 | 7.8 | ug/L | | | 09/25/20 15:10 | 20 |
| Bromoform | ND | | 20 | 5.2 | ug/L | | | 09/25/20 15:10 | 20 |
| Bromomethane | ND | | 20 | 14 | ug/L | | | 09/25/20 15:10 | 20 |
| Carbon disulfide | ND | | 20 | 3.8 | ug/L | | | 09/25/20 15:10 | 20 |
| Carbon tetrachloride | ND | | 20 | 5.4 | ug/L | | | 09/25/20 15:10 | 20 |
| Chlorobenzene | ND | | 20 | 15 | ug/L | | | 09/25/20 15:10 | 20 |
| Dibromochloromethane | ND | | 20 | 6.4 | ug/L | | | 09/25/20 15:10 | 20 |
| **Chloroethane** | **28** | | 20 | 6.4 | ug/L | | | 09/25/20 15:10 | 20 |
| Chloroform | ND | | 20 | 6.8 | ug/L | | | 09/25/20 15:10 | 20 |
| Chloromethane | ND | | 20 | 7.0 | ug/L | | | 09/25/20 15:10 | 20 |
| **cis-1,2-Dichloroethene** | **880** | | 20 | 16 | ug/L | | | 09/25/20 15:10 | 20 |
| cis-1,3-Dichloropropene | ND | | 20 | 7.2 | ug/L | | | 09/25/20 15:10 | 20 |
| Cyclohexane | ND | | 20 | 3.6 | ug/L | | | 09/25/20 15:10 | 20 |
| Dichlorodifluoromethane | ND | | 20 | 14 | ug/L | | | 09/25/20 15:10 | 20 |
| **Ethylbenzene** | **23** | | 20 | 15 | ug/L | | | 09/25/20 15:10 | 20 |
| 1,2-Dibromoethane | ND | | 20 | 15 | ug/L | | | 09/25/20 15:10 | 20 |
| Isopropylbenzene | ND | | 20 | 16 | ug/L | | | 09/25/20 15:10 | 20 |
| Methyl acetate | ND | | 50 | 26 | ug/L | | | 09/25/20 15:10 | 20 |

## Client Sample ID: LAB-SBW-07

**Lab Sample ID: 480-175602-2**

**Date Collected: 09/23/20 15:10**

**Matrix: Water**

**Date Received: 09/24/20 10:30**

### Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | ND | | 20 | 3.2 | ug/L | | | 09/25/20 15:10 | 20 |
| **Methylcyclohexane** | **7.5** | **J** | 20 | 3.2 | ug/L | | | 09/25/20 15:10 | 20 |
| **Methylene Chloride** | **11** | **J** | 20 | 8.8 | ug/L | | | 09/25/20 15:10 | 20 |
| Styrene | ND | | 20 | 15 | ug/L | | | 09/25/20 15:10 | 20 |
| **Tetrachloroethene** | **8.5** | **J** | 20 | 7.2 | ug/L | | | 09/25/20 15:10 | 20 |
| **Toluene** | **130** | | 20 | 10 | ug/L | | | 09/25/20 15:10 | 20 |
| trans-1,2-Dichloroethene | ND | | 20 | 18 | ug/L | | | 09/25/20 15:10 | 20 |
| trans-1,3-Dichloropropene | ND | | 20 | 7.4 | ug/L | | | 09/25/20 15:10 | 20 |
| **Trichloroethene** | **35** | | 20 | 9.2 | ug/L | | | 09/25/20 15:10 | 20 |
| Trichlorofluoromethane | ND | | 20 | 18 | ug/L | | | 09/25/20 15:10 | 20 |
| **Vinyl chloride** | **490** | | 20 | 18 | ug/L | | | 09/25/20 15:10 | 20 |
| **Xylenes, Total** | **120** | | 40 | 13 | ug/L | | | 09/25/20 15:10 | 20 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Unknown* | *51* | *T J* | *ug/L* | | *2.71* | | | *09/25/20 15:10* | *20* |
| *m-Xylene & p-Xylene* | *84* | | *ug/L* | | *8.95* | *179601-23-1* | | *09/25/20 15:10* | *20* |
| *o-Xylene* | *32* | | *ug/L* | | *9.38* | *95-47-6* | | *09/25/20 15:10* | *20* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *100* | | *80 - 120* | | *09/25/20 15:10* | *20* |
| *1,2-Dichloroethane-d4 (Surr)* | *112* | | *77 - 120* | | *09/25/20 15:10* | *20* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *73 - 120* | | *09/25/20 15:10* | *20* |
| *Dibromofluoromethane (Surr)* | *103* | | *75 - 123* | | *09/25/20 15:10* | *20* |

## Client Sample ID: TRIP BLANK-01

**Lab Sample ID: 480-175602-3**

**Date Collected: 09/23/20 00:00**

**Matrix: Water**

**Date Received: 09/24/20 10:30**

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.0 | 0.82 | ug/L | | | 09/25/20 14:22 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/25/20 14:22 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | 0.23 | ug/L | | | 09/25/20 14:22 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.0 | 0.31 | ug/L | | | 09/25/20 14:22 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | 0.38 | ug/L | | | 09/25/20 14:22 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | 0.29 | ug/L | | | 09/25/20 14:22 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.41 | ug/L | | | 09/25/20 14:22 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 1.0 | 0.39 | ug/L | | | 09/25/20 14:22 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/25/20 14:22 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/25/20 14:22 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | 0.72 | ug/L | | | 09/25/20 14:22 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | 0.78 | ug/L | | | 09/25/20 14:22 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | 0.84 | ug/L | | | 09/25/20 14:22 | 1 |
| 2-Butanone (MEK) | ND | | 10 | 1.3 | ug/L | | | 09/25/20 14:22 | 1 |
| 2-Hexanone | ND | | 5.0 | 1.2 | ug/L | | | 09/25/20 14:22 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | 2.1 | ug/L | | | 09/25/20 14:22 | 1 |
| Acetone | ND | | 10 | 3.0 | ug/L | | | 09/25/20 14:22 | 1 |
| Benzene | ND | | 1.0 | 0.41 | ug/L | | | 09/25/20 14:22 | 1 |
| Bromodichloromethane | ND | | 1.0 | 0.39 | ug/L | | | 09/25/20 14:22 | 1 |
| Bromoform | ND | | 1.0 | 0.26 | ug/L | | | 09/25/20 14:22 | 1 |

**Client Sample ID: TRIP BLANK-01**
**Lab Sample ID: 480-175602-3**
**Date Collected: 09/23/20 00:00**
**Matrix: Water**
**Date Received: 09/24/20 10:30**

**Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Bromomethane | ND | | 1.0 | 0.69 | ug/L | | | 09/25/20 14:22 | 1 |
| Carbon disulfide | ND | | 1.0 | 0.19 | ug/L | | | 09/25/20 14:22 | 1 |
| Carbon tetrachloride | ND | | 1.0 | 0.27 | ug/L | | | 09/25/20 14:22 | 1 |
| Chlorobenzene | ND | | 1.0 | 0.75 | ug/L | | | 09/25/20 14:22 | 1 |
| Dibromochloromethane | ND | | 1.0 | 0.32 | ug/L | | | 09/25/20 14:22 | 1 |
| Chloroethane | ND | | 1.0 | 0.32 | ug/L | | | 09/25/20 14:22 | 1 |
| Chloroform | ND | | 1.0 | 0.34 | ug/L | | | 09/25/20 14:22 | 1 |
| Chloromethane | ND | | 1.0 | 0.35 | ug/L | | | 09/25/20 14:22 | 1 |
| cis-1,2-Dichloroethene | ND | | 1.0 | 0.81 | ug/L | | | 09/25/20 14:22 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | 0.36 | ug/L | | | 09/25/20 14:22 | 1 |
| Cyclohexane | ND | | 1.0 | 0.18 | ug/L | | | 09/25/20 14:22 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | 0.68 | ug/L | | | 09/25/20 14:22 | 1 |
| Ethylbenzene | ND | | 1.0 | 0.74 | ug/L | | | 09/25/20 14:22 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | 0.73 | ug/L | | | 09/25/20 14:22 | 1 |
| Isopropylbenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/25/20 14:22 | 1 |
| Methyl acetate | ND | | 2.5 | 1.3 | ug/L | | | 09/25/20 14:22 | 1 |
| Methyl tert-butyl ether | ND | | 1.0 | 0.16 | ug/L | | | 09/25/20 14:22 | 1 |
| Methylcyclohexane | ND | | 1.0 | 0.16 | ug/L | | | 09/25/20 14:22 | 1 |
| **Methylene Chloride** | **0.58** | **J** | 1.0 | 0.44 | ug/L | | | 09/25/20 14:22 | 1 |
| Styrene | ND | | 1.0 | 0.73 | ug/L | | | 09/25/20 14:22 | 1 |
| Tetrachloroethene | ND | | 1.0 | 0.36 | ug/L | | | 09/25/20 14:22 | 1 |
| Toluene | ND | | 1.0 | 0.51 | ug/L | | | 09/25/20 14:22 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | 0.90 | ug/L | | | 09/25/20 14:22 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | 0.37 | ug/L | | | 09/25/20 14:22 | 1 |
| Trichloroethene | ND | | 1.0 | 0.46 | ug/L | | | 09/25/20 14:22 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | 0.88 | ug/L | | | 09/25/20 14:22 | 1 |
| Vinyl chloride | ND | | 1.0 | 0.90 | ug/L | | | 09/25/20 14:22 | 1 |
| Xylenes, Total | ND | | 2.0 | 0.66 | ug/L | | | 09/25/20 14:22 | 1 |

| *Tentatively Identified Compound* | *Est. Result* | *Qualifier* | *Unit* | *D* | *RT* | *CAS No.* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|---|---|---|
| *Tentatively Identified Compound* | *None* | | *ug/L* | | | | | *09/25/20 14:22* | *1* |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *Toluene-d8 (Surr)* | *99* | | *80 - 120* | | *09/25/20 14:22* | *1* |
| *1,2-Dichloroethane-d4 (Surr)* | *117* | | *77 - 120* | | *09/25/20 14:22* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *73 - 120* | | *09/25/20 14:22* | *1* |
| *Dibromofluoromethane (Surr)* | *107* | | *75 - 123* | | *09/25/20 14:22* | *1* |

# Surrogate Summary

Client: LaBella Associates DPC
Job ID: 480-175602-1
Project/Site: Former Emerson Street Landfill Project

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Matrix: Water** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| | | TOL | DCA | BFB | DBFM |
| Lab Sample ID | Client Sample ID | (80-120) | (77-120) | (73-120) | (75-123) |
| 480-175602-1 | LAB-SBW-03 | 102 | 109 | 101 | 105 |
| 480-175602-2 | LAB-SBW-07 | 100 | 112 | 102 | 103 |
| 480-175602-3 | TRIP BLANK-01 | 99 | 117 | 99 | 107 |
| LCS 480-551230/5 | Lab Control Sample | 102 | 107 | 103 | 102 |
| MB 480-551230/7 | Method Blank | 101 | 111 | 101 | 103 |

**Surrogate Legend**

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

## Method: 8260C - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 480-551230/7**
**Matrix: Water**
**Analysis Batch: 551230**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.0 | 0.82 | ug/L | | | 09/25/20 13:48 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/25/20 13:48 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | 0.23 | ug/L | | | 09/25/20 13:48 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.0 | 0.31 | ug/L | | | 09/25/20 13:48 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | 0.38 | ug/L | | | 09/25/20 13:48 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | 0.29 | ug/L | | | 09/25/20 13:48 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.41 | ug/L | | | 09/25/20 13:48 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 1.0 | 0.39 | ug/L | | | 09/25/20 13:48 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/25/20 13:48 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | 0.21 | ug/L | | | 09/25/20 13:48 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | 0.72 | ug/L | | | 09/25/20 13:48 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | 0.78 | ug/L | | | 09/25/20 13:48 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | 0.84 | ug/L | | | 09/25/20 13:48 | 1 |
| 2-Butanone (MEK) | ND | | 10 | 1.3 | ug/L | | | 09/25/20 13:48 | 1 |
| 2-Hexanone | ND | | 5.0 | 1.2 | ug/L | | | 09/25/20 13:48 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | 2.1 | ug/L | | | 09/25/20 13:48 | 1 |
| Acetone | ND | | 10 | 3.0 | ug/L | | | 09/25/20 13:48 | 1 |
| Benzene | ND | | 1.0 | 0.41 | ug/L | | | 09/25/20 13:48 | 1 |
| Bromodichloromethane | ND | | 1.0 | 0.39 | ug/L | | | 09/25/20 13:48 | 1 |
| Bromoform | ND | | 1.0 | 0.26 | ug/L | | | 09/25/20 13:48 | 1 |
| Bromomethane | ND | | 1.0 | 0.69 | ug/L | | | 09/25/20 13:48 | 1 |
| Carbon disulfide | ND | | 1.0 | 0.19 | ug/L | | | 09/25/20 13:48 | 1 |
| Carbon tetrachloride | ND | | 1.0 | 0.27 | ug/L | | | 09/25/20 13:48 | 1 |
| Chlorobenzene | ND | | 1.0 | 0.75 | ug/L | | | 09/25/20 13:48 | 1 |
| Dibromochloromethane | ND | | 1.0 | 0.32 | ug/L | | | 09/25/20 13:48 | 1 |
| Chloroethane | ND | | 1.0 | 0.32 | ug/L | | | 09/25/20 13:48 | 1 |
| Chloroform | ND | | 1.0 | 0.34 | ug/L | | | 09/25/20 13:48 | 1 |
| Chloromethane | ND | | 1.0 | 0.35 | ug/L | | | 09/25/20 13:48 | 1 |
| cis-1,2-Dichloroethene | ND | | 1.0 | 0.81 | ug/L | | | 09/25/20 13:48 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | 0.36 | ug/L | | | 09/25/20 13:48 | 1 |
| Cyclohexane | ND | | 1.0 | 0.18 | ug/L | | | 09/25/20 13:48 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | 0.68 | ug/L | | | 09/25/20 13:48 | 1 |
| Ethylbenzene | ND | | 1.0 | 0.74 | ug/L | | | 09/25/20 13:48 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | 0.73 | ug/L | | | 09/25/20 13:48 | 1 |
| Isopropylbenzene | ND | | 1.0 | 0.79 | ug/L | | | 09/25/20 13:48 | 1 |
| Methyl acetate | ND | | 2.5 | 1.3 | ug/L | | | 09/25/20 13:48 | 1 |
| Methyl tert-butyl ether | ND | | 1.0 | 0.16 | ug/L | | | 09/25/20 13:48 | 1 |
| Methylcyclohexane | ND | | 1.0 | 0.16 | ug/L | | | 09/25/20 13:48 | 1 |
| Methylene Chloride | ND | | 1.0 | 0.44 | ug/L | | | 09/25/20 13:48 | 1 |
| Styrene | ND | | 1.0 | 0.73 | ug/L | | | 09/25/20 13:48 | 1 |
| Tetrachloroethene | ND | | 1.0 | 0.36 | ug/L | | | 09/25/20 13:48 | 1 |
| Toluene | ND | | 1.0 | 0.51 | ug/L | | | 09/25/20 13:48 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | 0.90 | ug/L | | | 09/25/20 13:48 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | 0.37 | ug/L | | | 09/25/20 13:48 | 1 |
| Trichloroethene | ND | | 1.0 | 0.46 | ug/L | | | 09/25/20 13:48 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | 0.88 | ug/L | | | 09/25/20 13:48 | 1 |
| Vinyl chloride | ND | | 1.0 | 0.90 | ug/L | | | 09/25/20 13:48 | 1 |
| Xylenes, Total | ND | | 2.0 | 0.66 | ug/L | | | 09/25/20 13:48 | 1 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 480-551230/7**
**Matrix: Water**
**Analysis Batch: 551230**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Tentatively Identified Compound | MB Est. Result | MB Qualifier | Unit | D | RT | CAS No. | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tentatively Identified Compound | None | | ug/L | | | | | 09/25/20 13:48 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|
| Toluene-d8 (Surr) | 101 | | 80 - 120 | | 09/25/20 13:48 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 111 | | 77 - 120 | | 09/25/20 13:48 | 1 |
| 4-Bromofluorobenzene (Surr) | 101 | | 73 - 120 | | 09/25/20 13:48 | 1 |
| Dibromofluoromethane (Surr) | 103 | | 75 - 123 | | 09/25/20 13:48 | 1 |

**Lab Sample ID: LCS 480-551230/5**
**Matrix: Water**
**Analysis Batch: 551230**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 25.0 | 25.2 | | ug/L | | 101 | 73 - 126 |
| 1,1,2,2-Tetrachloroethane | 25.0 | 24.4 | | ug/L | | 98 | 76 - 120 |
| 1,1,2-Trichloroethane | 25.0 | 24.9 | | ug/L | | 99 | 76 - 122 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.0 | 28.1 | | ug/L | | 112 | 61 - 148 |
| 1,1-Dichloroethane | 25.0 | 24.3 | | ug/L | | 97 | 77 - 120 |
| 1,1-Dichloroethene | 25.0 | 24.9 | | ug/L | | 100 | 66 - 127 |
| 1,2,4-Trichlorobenzene | 25.0 | 25.5 | | ug/L | | 102 | 79 - 122 |
| 1,2-Dibromo-3-Chloropropane | 25.0 | 26.9 | | ug/L | | 108 | 56 - 134 |
| 1,2-Dichlorobenzene | 25.0 | 25.1 | | ug/L | | 100 | 80 - 124 |
| 1,2-Dichloroethane | 25.0 | 25.4 | | ug/L | | 102 | 75 - 120 |
| 1,2-Dichloropropane | 25.0 | 24.6 | | ug/L | | 98 | 76 - 120 |
| 1,3-Dichlorobenzene | 25.0 | 25.5 | | ug/L | | 102 | 77 - 120 |
| 1,4-Dichlorobenzene | 25.0 | 25.2 | | ug/L | | 101 | 80 - 120 |
| 2-Butanone (MEK) | 125 | 135 | | ug/L | | 108 | 57 - 140 |
| 2-Hexanone | 125 | 130 | | ug/L | | 104 | 65 - 127 |
| 4-Methyl-2-pentanone (MIBK) | 125 | 126 | | ug/L | | 101 | 71 - 125 |
| Acetone | 125 | 139 | | ug/L | | 111 | 56 - 142 |
| Benzene | 25.0 | 24.3 | | ug/L | | 97 | 71 - 124 |
| Bromodichloromethane | 25.0 | 26.0 | | ug/L | | 104 | 80 - 122 |
| Bromoform | 25.0 | 27.4 | | ug/L | | 110 | 61 - 132 |
| Bromomethane | 25.0 | 20.3 | | ug/L | | 81 | 55 - 144 |
| Carbon disulfide | 25.0 | 23.3 | | ug/L | | 93 | 59 - 134 |
| Carbon tetrachloride | 25.0 | 27.1 | | ug/L | | 109 | 72 - 134 |
| Chlorobenzene | 25.0 | 25.0 | | ug/L | | 100 | 80 - 120 |
| Dibromochloromethane | 25.0 | 27.8 | | ug/L | | 111 | 75 - 125 |
| Chloroethane | 25.0 | 20.8 | | ug/L | | 83 | 69 - 136 |
| Chloroform | 25.0 | 23.9 | | ug/L | | 96 | 73 - 127 |
| Chloromethane | 25.0 | 18.3 | | ug/L | | 73 | 68 - 124 |
| cis-1,2-Dichloroethene | 25.0 | 24.5 | | ug/L | | 98 | 74 - 124 |
| cis-1,3-Dichloropropene | 25.0 | 26.1 | | ug/L | | 104 | 74 - 124 |
| Cyclohexane | 25.0 | 25.9 | | ug/L | | 104 | 59 - 135 |
| Dichlorodifluoromethane | 25.0 | 19.1 | | ug/L | | 77 | 59 - 135 |
| Ethylbenzene | 25.0 | 25.1 | | ug/L | | 100 | 77 - 123 |
| 1,2-Dibromoethane | 25.0 | 24.7 | | ug/L | | 99 | 77 - 120 |

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 480-551230/5**
**Matrix: Water**
**Analysis Batch: 551230**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Isopropylbenzene | 25.0 | 26.3 | | ug/L | | 105 | 77 - 122 |
| Methyl acetate | 50.0 | 46.9 | | ug/L | | 94 | 74 - 133 |
| Methyl tert-butyl ether | 25.0 | 24.4 | | ug/L | | 98 | 77 - 120 |
| Methylcyclohexane | 25.0 | 27.4 | | ug/L | | 110 | 68 - 134 |
| Methylene Chloride | 25.0 | 22.7 | | ug/L | | 91 | 75 - 124 |
| Styrene | 25.0 | 26.0 | | ug/L | | 104 | 80 - 120 |
| Tetrachloroethene | 25.0 | 26.0 | | ug/L | | 104 | 74 - 122 |
| Toluene | 25.0 | 24.4 | | ug/L | | 98 | 80 - 122 |
| trans-1,2-Dichloroethene | 25.0 | 23.6 | | ug/L | | 94 | 73 - 127 |
| trans-1,3-Dichloropropene | 25.0 | 26.5 | | ug/L | | 106 | 80 - 120 |
| Trichloroethene | 25.0 | 24.2 | | ug/L | | 97 | 74 - 123 |
| Trichlorofluoromethane | 25.0 | 25.0 | | ug/L | | 100 | 62 - 150 |
| Vinyl chloride | 25.0 | 20.2 | | ug/L | | 81 | 65 - 133 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *Toluene-d8 (Surr)* | *102* | | *80 - 120* |
| *1,2-Dichloroethane-d4 (Surr)* | *107* | | *77 - 120* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *73 - 120* |
| *Dibromofluoromethane (Surr)* | *102* | | *75 - 123* |

# QC Association Summary

Client: LaBella Associates DPC
Job ID: 480-175602-1
Project/Site: Former Emerson Street Landfill Project

## GC/MS VOA

### Analysis Batch: 551230

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 480-175602-1 | LAB-SBW-03 | Total/NA | Water | 8260C | |
| 480-175602-2 | LAB-SBW-07 | Total/NA | Water | 8260C | |
| 480-175602-3 | TRIP BLANK-01 | Total/NA | Water | 8260C | |
| MB 480-551230/7 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-551230/5 | Lab Control Sample | Total/NA | Water | 8260C | |

# Lab Chronicle

Client: LaBella Associates DPC
Job ID: 480-175602-1
Project/Site: Former Emerson Street Landfill Project

## Client Sample ID: LAB-SBW-03
**Lab Sample ID: 480-175602-1**
**Date Collected: 09/23/20 13:40**
**Matrix: Water**
**Date Received: 09/24/20 10:30**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 5 | 551230 | 09/25/20 14:46 | WJD | TAL BUF |

## Client Sample ID: LAB-SBW-07
**Lab Sample ID: 480-175602-2**
**Date Collected: 09/23/20 15:10**
**Matrix: Water**
**Date Received: 09/24/20 10:30**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 20 | 551230 | 09/25/20 15:10 | WJD | TAL BUF |

## Client Sample ID: TRIP BLANK-01
**Lab Sample ID: 480-175602-3**
**Date Collected: 09/23/20 00:00**
**Matrix: Water**
**Date Received: 09/24/20 10:30**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260C | | 1 | 551230 | 09/25/20 14:22 | WJD | TAL BUF |

**Laboratory References:**

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

# Accreditation/Certification Summary

Client: LaBella Associates DPC
Job ID: 480-175602-1
Project/Site: Former Emerson Street Landfill Project

## Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|---|---|---|---|
| New York | NELAP | 10026 | 04-01-21 |

# Method Summary

Client: LaBella Associates DPC
Job ID: 480-175602-1
Project/Site: Former Emerson Street Landfill Project

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260C | Volatile Organic Compounds by GC/MS | SW846 | TAL BUF |
| 5030C | Purge and Trap | SW846 | TAL BUF |

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

# Sample Summary

Client: LaBella Associates DPC
Job ID: 480-175602-1
Project/Site: Former Emerson Street Landfill Project

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---|---|---|---|---|---|
| 480-175602-1 | LAB-SBW-03 | Water | 09/23/20 13:40 | 09/24/20 10:30 | |
| 480-175602-2 | LAB-SBW-07 | Water | 09/23/20 15:10 | 09/24/20 10:30 | |
| 480-175602-3 | TRIP BLANK-01 | Water | 09/23/20 00:00 | 09/24/20 10:30 | |

# NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

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

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

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

Page 1 of 1

Date Rec'd in Lab:

ALPHA Job #:

## Client Information

Client: LABELLA
Address: 300 State Street, Suite 201
Rochester, NY 14614
Phone: 585-454-6110
Fax:
Email: AABarber@labellapc.com

## Project Information

Project Name: FESL
Project Location: 1700 Emerson St, Rochester
Project #: 210173
(Use Project name as Project #)
Project Manager: Ann. Barber
ALPHAQuote #:

## Turn-Around Time

Standard ☐ Due Date: 9/25/20
Rush (only if pre approved) ☒ # of Days: 1 day TAT

## Deliverables

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

## Billing Information

☒ Same as Client Info
PO #

## 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:**

Please include TICS. 1 DAY TAT

**Please specify Metals or TAL.**

## ANALYSIS

$8260 TCL VOCs + TICs

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

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | Sample Specific Comments | Total Bottle |
|---|---|---|---|---|---|---|---|
| | LAB-SBW-03 | 9/23/20 | 13:40 | GW | ES | | 3 |
| | LAB-SBW-07 | 9/23/20 | 15:10 | GW | ES | | 3 |
| | TRIP-BLANK-01 | 9/23/20 | — | GW | ES | | 2 |

480-175602 Chain of Custody

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

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

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

Container Type: V
Preservative: B

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Emily Admiello | 9/23/20 16:30 | Courier | 9/24/20 1030 |

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)

#1 2 of

# Login Sample Receipt Checklist

Client: LaBella Associates DPC

Job Number: 480-175602-1

**Login Number: 175602**

**List Source: Eurofins TestAmerica, Buffalo**

**List Number: 1**

**Creator: Wallace, Cameron**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs).. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | labella |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | True | |
| Chlorine Residual checked. | N/A | |

# Design Phase Investigation
# Laboratory Reports

## Tracer Test Samples

PARADIGM

*Analytical Report For*

# LaBella Associates, P.C.

*For Lab Project ID*

## 205849

*Referencing*

Tracer Solution Check

*Prepared*

Monday, December 14, 2020

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 205849

**Client:** **LaBella Associates, P.C.**

**Project Reference:** Tracer Solution Check

| | | | |
|---|---|---|---|
| **Sample Identifier:** | KBr Solution | | |
| **Lab Sample ID:** | 205849-01 | **Date Sampled:** | 12/11/2020 |
| **Matrix:** | Water | **Date Received:** | 12/11/2020 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **0.94** | mg/L | | 12/12/2020 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

# Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

*"<" = Analyzed for but not detected at or above the quantitation limit.*
*"E" = Result has been estimated, calibration limit exceeded.*
*"Z" = See case narrative.*
*"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.*
*"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.*
*"B" = Method blank contained trace levels of analyte. Refer to included method blank report.*
*"J" = Result estimated between the quantitation limit and half the quantitation limit.*
*"L" = Laboratory Control Sample recovery outside accepted QC limits.*
*"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.*
*"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.*
*"*" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
*"(1)" = Indicates data from primary column used for QC calculation.*
*"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.*
*"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.*

# GENERAL TERMS AND CONDITIONS
# LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

**Warranty.** Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

**Scope and Compensation.** LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

**Prices.** Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

**Limitations of Liability.** In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

**Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

**Sample Handling.** Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

**Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

**Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

**Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

**Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 2

# CHAIN OF CUSTODY

PARADIGM

| REPORT TO: | | INVOICE TO: | | |
|---|---|---|---|---|
| CLIENT: Labella | | CLIENT: Same | | LAB PROJECT ID: 205849 |
| ADDRESS: 300 State St. | | ADDRESS: | | Quotation #: |
| CITY: | STATE: ZIP: 14614 | CITY: | STATE: ZIP: | Email: DWall@labellapc.com |
| PHONE: 295-6611 | | PHONE: | | |
| ATTN: Dan Wall | | ATTN: | | |

**PROJECT REFERENCE**: Tracer Solution Check

**Matrix Codes:**
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

**REQUESTED ANALYSIS**

| DATE COLLECTED | TIME COLLECTED | COMPOSITE | GRAB | SAMPLE IDENTIFIER | MATRIX CODES | NUMBER OF CONTAINERS | Bromide | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| 12/11/20 | 15:30 | | X | KBr Solution | WA | 1 | X | | 01 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |

| Turnaround Time | | Report Supplements | | |
|---|---|---|---|---|
| Availability contingent upon lab approval; additional fees may apply. | | | | |
| Standard 5 day | ☐ | None Required | ☒ | None Required ☒ |
| 10 day | ☐ | Batch QC | ☐ | Basic EDD ☐ |
| Rush 3 day | ☐ | Category A | ☐ | NYSDEC EDD ☐ |
| Rush 2 day | ☐ | Category B | ☐ | |
| Rush 1 day | ☐ | | | |
| Date Needed: ASAP (please indicate date needed:) | | Other (please indicate package needed:) | ☐ | Other EDD (please indicate EDD needed:) ☐ |

Sampled By: Marshall — Date/Time:

Relinquished By: — Date/Time: 12/11/20 15:35

Received By: — Date/Time: 12/11/2020 15:54

Received @ Lab By: 17 °C — Date/Time: 12/11/2020 15:53

Total Cost:

P.I.F. ☐

**By signing this form, client agrees to Paradigm Terms and Conditions (reverse).**



See additional page for sample conditions.

PARADIGM

# *Chain of Custody Supplement*

**Client:** LaBella Associates **Completed by:** Glenn Pezzulo

**Lab Project ID:** 205849 **Date:** 12/11/2020

## *Sample Condition Requirements*

Per NELAC/ELAP 210/241/242/243/244

| Condition | *NELAC compliance with the sample condition requirements upon receipt* Yes | No | N/A |
|---|---|---|---|
| **Container Type** | X | | |
| Comments | | | |
| *Transferred to method-compliant container* | | | X |
| **Headspace (<1 mL)** | | | X |
| Comments | | | |
| **Preservation** | | | X |
| Comments | | | |
| **Chlorine Absent (<0.10 ppm per test strip)** | | | X |
| Comments | | | |
| **Holding Time** | X | | |
| Comments | | | |
| **Temperature** | | | X |
| Comments | 17°C | | |
| **Compliant Sample Quantity/Type** | X | | |
| Comments | | | |



179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

PARADIGM ENVIRONMENTAL SERVICES, INC.

# CHAIN OF CUSTODY

1 of 1

L2055672

11148

| REPORT TO: | | INVOICE TO: | | | |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | LAB PROJECT #: | CLIENT PROJECT #: |
| ADDRESS: | 179 Lake Avenue | ADDRESS: | | | |
| CITY: Rochester STATE: NY ZIP: 14608 | | CITY: STATE: ZIP: | | TURNAROUND TIME: (WORKING DAYS) | |
| PHONE: FAX: | | PHONE: FAX: | | Rush STD OTHER | |
| PROJECT NAME/SITE NAME: | | ATTN: Reporting | ATTN: Accounts Payable | ☐ 1 ☐ 2 ☐ 3 ☐ 5 | |
| | | COMMENTS: Please email results to reporting@paradigmenv.com | | Date Due: 12/14/2020 3 PM | |

REQUESTED ANALYSIS

| | DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER CONTAINERS | Bromide | | | | | | | | | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12/11/2020 | 15:30 | | X | 205849-01 | Water | 1 | X | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | |

**LAB USE ONLY BELOW THIS LINE**

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: | Y ☐ | N ☐ |
| Comments: | | |

Client

| | | |
|---|---|---|
| Sampled By | Date/Time | 12/11/2020 16:00 |
| Relinquished By | Date/Time | |
| Received By | Date/Time | 12/11/20 17:07 |
| Received By | Date/Time | 12/12/20 02:10 |
| Received @ Lab By | Date/Time | |

Total Cost:

P.I.F. ☐

PARADIGM

*Analytical Report For*

# LaBella Associates, P.C.

*For Lab Project ID*

## 205935

*Referencing*

N/A

*Prepared*

Tuesday, December 22, 2020

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 205935

**Client:** **LaBella Associates, P.C.**

**Project Reference:** N/A

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-15 (12172020) | | |
| **Lab Sample ID:** | 205935-01 | **Date Sampled:** | 12/17/2020 |
| **Matrix:** | Aq Liquid | **Date Received:** | 12/17/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | <0.50 | mg/L | | 12/21/2020 |

**Method Reference(s):** EPA 300.0 Rev 2.1
**Subcontractor ELAP ID:** 10709

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 205935

**Client:** **LaBella Associates, P.C.**

**Project Reference:** N/A

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-16 (12172020) | | |
| **Lab Sample ID:** | 205935-02 | **Date Sampled:** | 12/17/2020 |
| **Matrix:** | Aq Liquid | **Date Received:** | 12/17/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | <0.50 | mg/L | | 12/21/2020 |

**Method Reference(s):** EPA 300.0 Rev 2.1
**Subcontractor ELAP ID:** 10709

# Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

*"<" = Analyzed for but not detected at or above the quantitation limit.*
*"E" = Result has been estimated, calibration limit exceeded.*
*"Z" = See case narrative.*
*"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.*
*"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.*
*"B" = Method blank contained trace levels of analyte. Refer to included method blank report.*
*"J" = Result estimated between the quantitation limit and half the quantitation limit.*
*"L" = Laboratory Control Sample recovery outside accepted QC limits.*
*"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.*
*"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.*
*"*" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
*"(1)" = Indicates data from primary column used for QC calculation.*
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# LABORATORY SERVICES

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LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

**Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

**Sample Handling.** Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

**Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

**Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

**Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

**Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

# CHAIN OF CUSTODY

PARADIGM

| REPORT TO: | | INVOICE TO: | | |
|---|---|---|---|---|
| CLIENT: | LaBella associates | CLIENT: | | LAB PROJECT ID: 205935 |
| ADDRESS: | 300 State Street Suite 200 | ADDRESS: | | |
| CITY: | Rochester STATE: NY ZIP: 14614 | CITY: STATE: ZIP: | | Quotation #: |
| PHONE: | 585-454-6110 | PHONE: | | Email: |
| ATTN: | Dan Nail | ATTN: | | |

**PROJECT REFERENCE**

**Matrix Codes:**
**AQ** - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

REQUESTED ANALYSIS

| DATE COLLECTED | TIME COLLECTED | COMPOSITE | GRAB | SAMPLE IDENTIFIER | MATRIX CODES | NUMBER OF CONTAINERS | BV | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| 12/17/2020 | 1103 | | ✓ | LAB-SBW-15-(12172020) | aq/wg | 1 | X | | 01 |
| 12/17/2020 | 1100 | | ✓ | LAB-SBW-16-(12172020) | aq/wg | 1 | X | | 02 |
| | | | | | Dissol. test MN 12/17/2020 | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 10°C iced started in field | |

| Turnaround Time | Report Supplements | |
|---|---|---|
| Availability contingent upon lab approval; additional fees may apply. | | |
| Standard 5 day ☒ | None Required ☐ | None Required ☐ |
| 10 day ☐ (5D, 2 Rush per DW email) | Batch QC ☐ | Basic EDD ☐ |
| Rush 3 day ☒ | Category A ☐ | NYSDEC EDD ☐ |
| Rush 2 day ☐ | Category B ☐ | |
| Rush 1 day ☐ | | |
| Date Needed _____ please indicate date needed: | Other ☐ please indicate package needed: | Other EDD ☐ please indicate EDD needed: |

| | | |
|---|---|---|
| Sampled By | 12/17/2020 1245 Date/Time | Total Cost: |
| Relinquished By | 12/17/2020 1250 Date/Time | |
| Received By: Emily Laumen | 12/17/2020 1250 Date/Time | P.I.F. |
| Received @ Lab By: Mol Nail | 12/17/2020 1312 Date/Time | |

**By signing this form, client agrees to Paradigm Terms and Conditions (reverse).**



See additional page for sample conditions.

PARADIGM

# Chain of Custody Supplement

**Client:** LaBella **Completed by:** Molly Kail

**Lab Project ID:** 205935 **Date:** 12/17/2020

## Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

| Condition | NELAC compliance with the sample condition requirements upon receipt: Yes | No | N/A |
|---|---|---|---|
| **Container Type** | X | | |
| Comments | | | |
| *Transferred to method-compliant container* | | | X |
| **Headspace (<1 mL)** | | | X |
| Comments | | | |
| **Preservation** | | | X |
| Comments | | | |
| **Chlorine Absent (<0.10 ppm per test strip)** | | | X |
| Comments | | | |
| **Holding Time** | X | | |
| Comments | | | |
| **Temperature** | X | | |
| Comments | 10°c iced started in field | | |
| **Compliant Sample Quantity/Type** | X | | |
| Comments | | | |

201218008

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

# CHAIN OF CUSTODY

**ADIRONDACK: ELAP ID: 1**

Demo 201218008

| REPORT TO: | | INVOICE TO: | | | |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | LAB PROJECT #: | CLIENT PROJECT # |
| ADDRESS: | | ADDRESS: | | | |
| CITY: STATE: ZIP: | | CITY: STATE: ZIP: | | TURNAROUND TIME: (WORKING DAYS) | |
| PHONE: FAX: | | PHONE: FAX: | | STD 1 2 3 X 5 | |
| PROJECT NAME/SITE NAME: | | ATTN: | Reporting | ATTN: | Accounts Payable |
| | | COMMENTS: | Please email results to reporting@paradigmenv.com | Date Due: | 12/28/2020 |

## REQUESTED ANALYSIS

| | DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER CONTAINERS | Bromide | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12/17/2020 | 1103 | | | 205935-01 | aqueous Liquid | 1 | X | | |
| 2 | " | 1100 | | | -02 | " | 1 | X | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**LAB USE ONLY BELOW THIS LINE**

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: Not AES. AE 12/18 | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: 4 °C | Y ☐ | N ☐ |
| Comments: | | |

Client

Sampled By: Molly Wail Date/Time: 12/18/2020 0830

Relinquished By: Date/Time:

Received By: Date/Time:

Received @ Lab By: Date/Time: 12/18/20 2:33 pm

Total Cost:

P.I.F.

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC

*Analytical Report For*

# LaBella Associates, P.C.

*For Lab Project ID*

**205954**

*Referencing*

N/A

*Prepared*

Tuesday, December 29, 2020

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 205954

**Client:** **LaBella Associates, P.C.**

**Project Reference:** N/A

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-15-12182020 | | |
| **Lab Sample ID:** | 205954-01 | **Date Sampled:** | 12/18/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/18/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **0.660** | mg/L | | 12/28/2020 |

**Method Reference(s):** EPA 300.0 REV 2.1
**Subcontractor ELAP ID:** 10709

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 205954

**Client:** **LaBella Associates, P.C.**

**Project Reference:** N/A

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-16-12182020 | | |
| **Lab Sample ID:** | 205954-02 | **Date Sampled:** | 12/18/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/18/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **1.25** | mg/L | | 12/28/2020 |

**Method Reference(s):** EPA 300.0 REV 2.1
**Subcontractor ELAP ID:** 10709

# Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

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NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

*"<" = Analyzed for but not detected at or above the quantitation limit.*
*"E" = Result has been estimated, calibration limit exceeded.*
*"Z" = See case narrative.*
*"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.*
*"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.*
*"B" = Method blank contained trace levels of analyte. Refer to included method blank report.*
*"J" = Result estimated between the quantitation limit and half the quantitation limit.*
*"L" = Laboratory Control Sample recovery outside accepted QC limits.*
*"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.*
*"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.*
*"*" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
*"(1)" = Indicates data from primary column used for QC calculation.*
*"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.*
*"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.*

# GENERAL TERMS AND CONDITIONS
# LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

**Warranty.** Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

**Scope and Compensation.** LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

**Prices.** Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

**Limitations of Liability.** In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

**Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

**Sample Handling.** Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

**Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

**Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

**Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

**Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 2



PARADIGM

# CHAIN OF CUSTODY

| REPORT TO: | | INVOICE TO: | | LAB PROJECT ID |
|---|---|---|---|---|
| CLIENT: | Liberty Associates | CLIENT: | Same as Report to | 205954 |
| ADDRESS: | 300 State St, Suite 200 | ADDRESS: | | Quotation #: |
| CITY: | Rochester STATE: NY ZIP: 14610 | CITY: | STATE: ZIP: | Email: |
| PHONE: | 585-454-6100 | PHONE: | | |
| ATTN: | Dan Noll | ATTN: | | |

**PROJECT REFERENCE**

**Matrix Codes:**
**AQ** - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

**REQUESTED ANALYSIS**

| DATE COLLECTED | TIME COLLECTED | COMPOSITE | GRAB | SAMPLE IDENTIFIER | MATRIX CODES | NUMBER OF CONTAINERS | 1 x Filtered | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| 12/18/2020 | 1100 | | X | LAB-SBW-15-12182020 | GW | 1 | X | 2717 MS, KCL | 01 |
| 12/18/2020 | 1105 | | X | LAB SBW-16-12182020 | GW | 1 | X | 4752 MS, KCL | 02 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 8°C iced started in field MW 12/18/2020 1259 | |

| Turnaround Time | | Report Supplements | | | |
|---|---|---|---|---|---|
| Availability contingent upon lab approval; additional fees may apply. | | | | | |
| Standard 5 day | X | None Required | | None Required | |
| 10 day | | Batch QC | | Basic EDD | |
| Rush 3 day | | Category A | | NYSDEC EDD | |
| Rush 2 day | | Category B | | | |
| Rush 1 day | | | | | |
| Date Needed _____ please indicate date needed: | | Other please indicate peckege needed: | | Other EDD please indicate EDD needed : | |

| | | |
|---|---|---|
| Katherine Tracy | 12/18/2020 1227 | Total Cost: |
| Sampled By | Date/Time | |
| Relinquished By | 12/18/2020 1227 | |
| Received By | 12/18/2020 1227 | 0.5°C ~~iced~~ SD 12/18/20 |
| Received @ Lab By | 12/18/2020 1259 | P.I.F. |

Date/Time

**By signing this form, client agrees to Paradigm Terms and Conditions (reverse).**

See additional page for sample conditions.

PARADIGM

# *Chain of Custody Supplement*

**Client:** Labelle **Completed by:** Molly Nail

**Lab Project ID:** 205954 **Date:** 12/18/2020

## *Sample Condition Requirements*

Per NELAC/ELAP 210/241/242/243/244

| Condition | *NELAC compliance with the sample condition requirements upon receipt* Yes | No | N/A |
|---|---|---|---|
| **Container Type** | X | | |
| Comments | | | |
| *Transferred to method-compliant container* | | | X |
| **Headspace (<1 mL)** | | | X |
| Comments | | | |
| **Preservation** | | | X |
| Comments | | | |
| **Chlorine Absent (<0.10 ppm per test strip)** | | | X |
| Comments | | | |
| **Holding Time** | X | | |
| Comments | | | |
| **Temperature** | | | X |
| Comments | | | |
| **Compliant Sample Quantity/Type** | X | | |
| Comments | | | |



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20122018

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

# CHAIN OF CUSTODY

**ADIRONDACK: ELAP ID: 1**





| REPORT TO: | | INVOICE TO: | | LAB PROJECT #: | CLIENT PROJECT |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | | |
| ADDRESS: | | ADDRESS: | | | |
| CITY: STATE: ZIP: | | CITY: STATE: ZIP: | | TURNAROUND TIME: (WORKING DAYS) | |
| PHONE: FAX: | | PHONE: FAX: | | | STD |
| PROJECT NAME/SITE NAME: | | ATTN: | Reporting | ATTN: | Accounts Payable | ☐ 1 ☐ 2 ☐ 3 ☒ 5 |
| | | COMMENTS: | Please email results to reporting@paradigmenv.com | Date Due: | 12/29/2020 |

**REQUESTED ANALYSIS**

| DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER CONTAINERS | Bromide | | | | | | | | | | REMARKS | PARADIGM SAMPLE NU |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12/15/2020 | 1100 | | | 205954-01 | GW | 1 | X | | | | | | | | | 2717 µs, KCL | |
| 2 | 12/15/2020 | 1105 | | | -02 | GW | 1 | X | | | | | | | | | 4752 µs, KCL | |
| 3 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |
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| 8 | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | |

****LAB USE ONLY BELOW THIS LINE****

**Sample Condition: Per NELAC/ELAP 210/241/242/243/244**

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: Not AES AC 12/21 | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: 6°C | Y ☐ | N ☐ |
| Comments: | | |

**Client**

| | Sampled By | Date/Time |
|---|---|---|
| | Molly Vail | 12/21/2020 0830 |
| Relinquished By | | Date/Time |
| | | 12/21/20 12:00PM |
| Received By | | Date/Time |
| | | 12/21/20 4:27pm |
| Received @ Lab By | | Date/Time |

Total Cost:

P.I.F.

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC

*Analytical Report For*

# LaBella Associates, P.C.

*For Lab Project ID*

**205968**

*Referencing*

210173

*Prepared*

Tuesday, December 29, 2020

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958





*Report Prepared Tuesday, December 29, 2020*

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 205968

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-16 | | |
| **Lab Sample ID:** | 205968-01 | **Date Sampled:** | 12/19/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/21/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **1.43** | mg/L | | 12/29/2020 |

**Method Reference(s):** EPA 300.0 REV 2.1
**Subcontractor ELAP ID:** 10709

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 205968

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-15 | | |
| **Lab Sample ID:** | 205968-02 | **Date Sampled:** | 12/19/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/21/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **0.750** | mg/L | | 12/29/2020 |

**Method Reference(s):** EPA 300.0 REV 2.1
**Subcontractor ELAP ID:** 10709

# Analytical Report Appendix

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*"L" = Laboratory Control Sample recovery outside accepted QC limits.*
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LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

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Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

**Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

**Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

**Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

**Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311





PARADIGM

# CHAIN OF CUSTODY

| REPORT TO: | | INVOICE TO: | | |
|---|---|---|---|---|
| CLIENT: | LaBella Associates | CLIENT: | SAME | LAB PROJECT ID: 205968 |
| ADDRESS: | 300 State St, Suite 200 | ADDRESS: | | |
| CITY: | Rochester STATE: NY ZIP: 14610 | CITY: STATE: ZIP: | | Quotation #: |
| PHONE: | 585-454-6110 | PHONE: | | Email: dNoll@labellapc.com |
| ATTN: | Dan Noll | ATTN: | | |

**PROJECT REFERENCE**

210173

**Matrix Codes:**

**AQ** - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

**REQUESTED ANALYSIS**

| DATE COLLECTED | TIME COLLECTED | COMPOSITE | GRAB | SAMPLE IDENTIFIER | MATRIX CODES | NUMBER OF CONTAINERS | BromoDG | | | | | | | | | | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/19/20 | 1335 | | X | LBA-SBW-16 | WG | 1 | X | | | | | | | | | | 4617 MS | 01 |
| 12/19/20 | 1345 | | X | LBA-SBW-15 | WG | 1 | X | | | | | | | | | | 2862 MS | 02 |
| | | | | | | | | | | | | | | | | | | |
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| Turnaround Time | | Report Supplements | | | |
|---|---|---|---|---|---|
| Availability contingent upon lab approval; additional fees may apply. | | | | | |
| Standard 5 day | X | None Required | | None Required | |
| 10 day | | Batch QC | | Basic EDD | |
| Rush 3 day | | Category A | | NYSDEC EDD | |
| Rush 2 day | | Category B | | | |
| Rush 1 day | | | | | |
| Date Needed _____ please indicate date needed: | | Other please indicate package needed: | | Other EDD please indicate EDD needed: | |

DAN Noll — Sampled By — 12/19/20 — Date/Time

Relinquished By — 12/19/20 1405 — Date/Time

Total Cost:

Received By — Date/Time

12/21/2020 09:44

P.I.F.

Received @ Lab By — Date/Time

15°C 12/21/2020 09:26

**By signing this form, client agrees to Paradigm Terms and Conditions (reverse).**

See additional page for sample conditions.

PARADIGM

# *Chain of Custody Supplement*

**Client:** LaBella Associates **Completed by:** Glenn Pezzulo

**Lab Project ID:** 205968 **Date:** 12/21/2020

## *Sample Condition Requirements*

Per NELAC/ELAP 210/241/242/243/244

| Condition | *NELAC compliance with the sample condition requirements upon receipt* Yes | No | N/A |
|---|---|---|---|
| **Container Type** | X | | |
| Comments | | | |
| *Transferred to method-compliant container* | | | X |
| **Headspace (<1 mL)** | | | X |
| Comments | | | |
| **Preservation** | | | X |
| Comments | | | |
| **Chlorine Absent (<0.10 ppm per test strip)** | | | X |
| Comments | | | |
| **Holding Time** | X | | |
| Comments | | | |
| **Temperature** | | | X |
| Comments | 15 °C | | |
| **Compliant Sample Quantity/Type** | X | | |
| Comments | | | |

201222007

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 1

# CHAIN OF CUSTODY

**ADIRONDACK: ELAP ID**



| REPORT TO: | | INVOICE TO: | | | |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | LAB PROJECT #: | CLIENT PRO |
| ADORESS: | | ADDRESS: | | | |
| CITY: STATE: ZIP: | | CITY: STATE: ZIP: | | TURNAROUND TIME: (WORKING DAYS | |
| PHONE: FAX: | | PHONE: FAX: | | STD | |
| PROJECT NAME/SITE NAME: | | ATTN: | Reporting | ATTN: Accounts Payable | 1 2 3 X 5 |
| | | COMMENTS: | Please email results to reporting@paradigmenv.com | Date Due: 12/30/202 | |

## REQUESTED ANALYSIS

| | DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER CONTAINERS | Bromide | | | | | | | | | REMARKS | PARAOIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12/19/2020 | 13:35 | | X | 205968-01 | Ground Water | 1 | X | | | | | | | | | 4617 µs | |
| 2 | 12/19/2020 | 13:45 | | X | ↓ -02 | ↓ | 1 | X | | | | | | | | | 2862 µs | |
| 3 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | |

****LAB USE ONLY BELOW THIS LINE****

**Sample Condition: Per NELAC/ELAP 210/241/242/243/244**

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: Not AES. AE 12/22 | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: 3°C | Y ☐ | N ☐ |
| Comments: | | |

**Client**

| | | |
|---|---|---|
| Sampled By | Date/Time | |
| [signature] | 12/22/2020 | 08:30 |
| Relinquished By | Date/Time | |
| [signature] | 12/22/20 | 1:30 PM |
| Received By | Date/Time | |
| [signature] | 12/22/20 | 4:26pm |
| Received @ Lab By | Date/Time | |

Total Cost:

P.I.F.

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC

*Analytical Report For*

# LaBella Associates, P.C.

*For Lab Project ID*

**205993**

*Referencing*

210173

*Prepared*

Tuesday, December 29, 2020

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 205993

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-15 | | |
| **Lab Sample ID:** | 205993-01 | **Date Sampled:** | 12/20/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/22/2020 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **1.7** | mg/L | | 12/24/2020 |

**Method Reference(s):** EPA 300.0 Rev 2.1
**Subcontractor ELAP ID:** 10709

**Lab Project ID:** 205993

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-16 | | |
| **Lab Sample ID:** | 205993-02 | **Date Sampled:** | 12/20/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/22/2020 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **1.3** | mg/L | | 12/28/2020 |

**Method Reference(s):** EPA 300.0 Rev 2.1
**Subcontractor ELAP ID:** 10709

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 205993

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-15(1) | | |
| **Lab Sample ID:** | 205993-03 | **Date Sampled:** | 12/21/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/22/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | <0.50 | mg/L | | 12/28/2020 |

**Method Reference(s):** EPA 300.0 Rev 2.1
**Subcontractor ELAP ID:** 10709

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 205993

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-16(1) | | |
| **Lab Sample ID:** | 205993-04 | **Date Sampled:** | 12/21/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/22/2020 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **1.3** | mg/L | | 12/28/2020 |

**Method Reference(s):** EPA 300.0 Rev 2.1
**Subcontractor ELAP ID:** 10709

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 205993

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-15(2) | | |
| **Lab Sample ID:** | 205993-05 | **Date Sampled:** | 12/22/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/22/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | <0.50 | mg/L | | 12/28/2020 |

**Method Reference(s):** EPA 300.0 Rev 2.1
**Subcontractor ELAP ID:** 10709

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 205993

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-16(2) | | |
| **Lab Sample ID:** | 205993-06 | **Date Sampled:** | 12/22/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/22/2020 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **1.2** | mg/L | | 12/28/2020 |

**Method Reference(s):** EPA 300.0 Rev 2.1
**Subcontractor ELAP ID:** 10709

# Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

*"<" = Analyzed for but not detected at or above the quantitation limit.*
*"E" = Result has been estimated, calibration limit exceeded.*
*"Z" = See case narrative.*
*"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.*
*"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.*
*"B" = Method blank contained trace levels of analyte. Refer to included method blank report.*
*"J" = Result estimated between the quantitation limit and half the quantitation limit.*
*"L" = Laboratory Control Sample recovery outside accepted QC limits.*
*"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.*
*"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.*
*"*" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
*"(1)" = Indicates data from primary column used for QC calculation.*
*"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.*
*"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.*

# GENERAL TERMS AND CONDITIONS
# LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

**Warranty.** Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

**Scope and Compensation.** LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

**Prices.** Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

**Limitations of Liability.** In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

**Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

**Sample Handling.** Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

**Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

**Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

**Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

**Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 2

# CHAIN OF CUSTODY



PARADIGM

| REPORT TO: | | INVOICE TO: | | |
|---|---|---|---|---|
| CLIENT: | LABELLA ASSOCIATES | CLIENT: | SAME | LAB PROJECT ID: 205993 |
| ADDRESS: | 300 STATE ST | ADDRESS: | | |
| CITY: | ROCHESTER STATE: NY ZIP: 14614 | CITY: STATE: ZIP: | | Quotation #: |
| PHONE: | 585-301-8458 | PHONE: | | Email: dNoll@labellapc.com |
| ATTN: | DAN Noll | ATTN: | | |

**PROJECT REFERENCE**: 210173

**Matrix Codes:**
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

**REQUESTED ANALYSIS**

| DATE COLLECTED | TIME COLLECTED | COMPOSITE | GRAB | SAMPLE IDENTIFIER | MATRIX CODES | NUMBER OF CONTAINERS | BROMIDE | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| 12/20/20 | 1525 | | X | LBA-SBW-15 | WG | 1 | X | 2844 µS | 01 |
| 12/20/20 | 1532 | | X | LBA-SBW-16 | WG | 1 | X | 4700 µS | 02 |
| 12/21/20 | 1520 | | X | LBA-SBW-15(1) | WG | 1 | X | 2735 µS | 03 |
| 12/21/20 | 1526 | | X | LBA-SBW-16(1) | WG | 1 | X | 4700 µS | 04 |
| 12/22/20 | 1220 | | X | LBA-SBW-15(2) | WG | 1 | X | 2823 µS | 05 |
| 12/22/20 | 1225 | | X | LBA-SBW-16(2) | WG | 1 | X | 4735 µS | 06 |

| Turnaround Time | | Report Supplements | | | |
|---|---|---|---|---|---|
| Availability contingent upon lab approval; additional fees may apply. | | | | | |
| Standard 5 day | ☐ | None Required | ☐ | None Required | ☐ |
| 10 day | ☐ | Batch QC | ☐ | Basic EDD | ☐ |
| Rush 3 day | ☒ | Category A | ☐ | NYSDEC EDD | ☐ |
| Rush 2 day | ☐ | Category B | ☐ | | |
| Rush 1 day | ☐ | | | | |
| Date Needed _____ please indicate date needed: | | Other ☐ please indicate package needed: | | Other EDD ☐ please indicate EDD needed: | |

| | | |
|---|---|---|
| DAN Noll | 12/20/20 1540 | Total Cost: |
| Sampled By | Date/Time | |
| Relinquished By | 12/22/20 1245 | |
| Received By | Date/Time | P.I.F. |
| | 12/22/2020 12:48 | |
| Received @ Lab By | Date/Time | |
| 2°C iced 12/22/2020 | 12:46 | |

**By signing this form, client agrees to Paradigm Terms and Conditions (reverse).**

See additional page for sample conditions.

PARADIGM

# *Chain of Custody Supplement*

**Client:** LaBella Associates **Completed by:** Glenn Pezzulo

**Lab Project ID:** 205993 **Date:** 12/22/2020

## *Sample Condition Requirements*

Per NELAC/ELAP 210/241/242/243/244

| Condition | *NELAC compliance with the sample condition requirements upon receipt* Yes | No | N/A |
|---|---|---|---|
| **Container Type** | X | | |
| Comments | | | |
| *Transferred to method-compliant container* | | | X |
| **Headspace (<1 mL)** | | | X |
| Comments | | | |
| **Preservation** | | | X |
| Comments | | | |
| **Chlorine Absent (<0.10 ppm per test strip)** | | | X |
| Comments | | | |
| **Holding Time** | X | | |
| Comments | | | |
| **Temperature** | | | X |
| Comments | 2°C iced | | |
| **Compliant Sample Quantity/Type** | X | | |
| Comments | | | |



179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

20122301O

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

# CHAIN OF CUSTODY

**ADIRONDACK: ELAP ID: 1**

PARADIGM ENVIRONMENTAL SERVICES, LLC



| REPORT TO: | | INVOICE TO: | | LAB PROJECT #: | CLIENT PROJECT |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | | |
| ADDRESS: | | ADDRESS: | | | |
| CITY: STATE: ZIP: | | CITY: STATE: ZIP: | | TURNAROUND TIME: (WORKING DAYS) | |
| PHONE: FAX: | | PHONE: FAX: | | Rush | STD |
| PROJECT NAME/SITE NAME: | | ATTN: | Reporting | ATTN: | Accounts Payable | ☐ 1 ☐ 2 ☐ 3 ☐ 5 |
| | | COMMENTS: | Please email results to reporting@paradigmenv.com | Date Due: | 12/28/2020 |

**REQUESTED ANALYSIS**

| | DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER OF CONTAINERS | Bromide | REMARKS | PARADIGM SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12/20/2020 | 15:25 | | X | 205993-01 | Ground Water | 1 | X | 2844 µs | |
| 2 | ↓ | 15:32 | | | -02 | | | | 4700 µs | |
| 3 | 12/21/2020 | 15:20 | | | -03 | | | | 2735 µs | |
| 4 | ↓ | 15:26 | | | -04 | | | | 4700 µs | |
| 5 | 12/22/2020 | 12:20 | | | -05 | | | | 2823 µs | |
| 6 | ↓ | 12:25 | | ↓ | -06 | ↓ | ↓ | ↓ | 4735 µs | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

****LAB USE ONLY BELOW THIS LINE****

**Sample Condition: Per NELAC/ELAP 210/241/242/243/244**

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: Not AES. 4C 12/23 | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: 6°C | Y ☐ | N ☐ |
| Comments: | | |

**Client**

| Sampled By | Date/Time | Total Cost: |
|---|---|---|
| [signature] | 12/23/2020 08:30 | |
| **Relinquished By** | **Date/Time** | |
| **Received By** | **Date/Time** | P.I.F. |
| [signature] | 12/23/20 | |
| **Received @ Lab By** | **Date/Time** | |

PARADIGM

*Analytical Report For*

# LaBella Associates, P.C.

*For Lab Project ID*

## 206021

*Referencing*

210173

*Prepared*

Friday, January 8, 2021

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206021

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-15 | | |
| **Lab Sample ID:** | 206021-01 | **Date Sampled:** | 12/23/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/28/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.55** | mg/L | M | 1/7/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206021

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-16 | | |
| **Lab Sample ID:** | 206021-02 | **Date Sampled:** | 12/23/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/28/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.11** | mg/L | | 1/7/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206021

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-15 (1) | | |
| **Lab Sample ID:** | 206021-03 | **Date Sampled:** | 12/24/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/28/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.46** | mg/L | | 1/7/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

**Lab Project ID:** 206021

**Client:** LaBella Associates, P.C.

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-16 (1) | | |
| **Lab Sample ID:** | 206021-04 | **Date Sampled:** | 12/24/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/28/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **2.95** | mg/L | | 1/7/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206021

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-15 (2) | | |
| **Lab Sample ID:** | 206021-05 | **Date Sampled:** | 12/26/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/28/2020 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.62** | mg/L | | 1/7/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206021

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-16 (2) | | |
| **Lab Sample ID:** | 206021-06 | **Date Sampled:** | 12/26/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/28/2020 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **2.87** | mg/L | | 1/7/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206021

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-15 (3) | | |
| **Lab Sample ID:** | 206021-07 | **Date Sampled:** | 12/27/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/28/2020 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.80** | mg/L | | 1/7/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

**Lab Project ID:** 206021

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-16 (3) | | |
| **Lab Sample ID:** | 206021-08 | **Date Sampled:** | 12/27/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/28/2020 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.16** | mg/L | | 1/7/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

**Lab Project ID:** 206021

**Client:** LaBella Associates, P.C.

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-15 (4) | | |
| **Lab Sample ID:** | 206021-09 | **Date Sampled:** | 12/28/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/28/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **1.30** | mg/L | | 12/29/2020 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206021

**Client:** LaBella Associates, P.C.

**Project Reference:** 210173

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-16 (4) | | |
| **Lab Sample ID:** | 206021-10 | **Date Sampled:** | 12/28/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/28/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **0.760** | mg/L | M | 12/29/2020 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

# Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

*"<" = Analyzed for but not detected at or above the quantitation limit.*
*"E" = Result has been estimated, calibration limit exceeded.*
*"Z" = See case narrative.*
*"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.*
*"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.*
*"B" = Method blank contained trace levels of analyte. Refer to included method blank report.*
*"J" = Result estimated between the quantitation limit and half the quantitation limit.*
*"L" = Laboratory Control Sample recovery outside accepted QC limits.*
*"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.*
*"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.*
*"*" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
*"(1)" = Indicates data from primary column used for QC calculation.*
*"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.*
*"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.*

# GENERAL TERMS AND CONDITIONS
# LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

**Warranty.** Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

**Scope and Compensation.** LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

**Prices.** Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

**Limitations of Liability.** In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

**Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

**Sample Handling.** Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

**Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

**Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

**Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

**Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311



# CHAIN OF CUSTODY

PARADIGM

| REPORT TO: | | INVOICE TO: | | |
|---|---|---|---|---|
| CLIENT: | LABELL ASSOCIATES | CLIENT: | SAME | LAB PROJECT ID: 206021 |
| ADDRESS: | 300 STATE ST | ADDRESS: | | |
| CITY: | ROCHESTER STATE: NY ZIP: 14614 | CITY: STATE: ZIP: | | Quotation #: |
| PHONE: | 585-301-8458 | PHONE: | | Email: dNoll@labellape.com |
| ATTN: | DAN Noll | ATTN: | | |

**PROJECT REFERENCE**: 210173

**Matrix Codes:**
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

| DATE COLLECTED | TIME COLLECTED | COMPOSITE | GRAB | SAMPLE IDENTIFIER | MATRIX CODES | NUMBER OF CONTAINERS | BROMIDE | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| 12/23/20 | 1325 | | X | LBA-SBW-15 | WG | 1 | X | 2758 MS | 01 |
| 12/23/20 | 1335 | | X | LBA-SBW-16 | WG | 1 | X | 4699 MS | 02 |
| 12/24/20 | 1150 | | X | LBA-SBW-15 (1) | " | 1 | X | 2789 MS | 03 |
| 12/24/20 | 1200 | | X | LBA-SBW-16 (1) | " | 1 | X | 4663 MS | 04 |
| 12/26/20 | 1430 | | X | LBA-SBW-15 (2) | " | 1 | X | 2935 MS | 05 |
| 12/26/20 | 1440 | | X | LBA-SBW-16 (2) | " | 1 | X | 4761 MS | 06 |
| 12/27/20 | 1430 | | " | LBA-SBW-15 (3) | " | 1 | X | 2876 MS | 07 |
| 12/27/20 | 1435 | | " | LBA-SBW-16 (3) | " | 1 | X | 4740 MS | 08 |
| 12/28/20 | 1005 | | " | LBA-SBW-15 (4) | " | 1 | " | 2865 MS } 2-DAY TAT for these samples | 09 |
| 12/28/20 | 1015 | | " | LBA-SBW-16 (4) | " | 1 | X | 4792 MS } | 10 |

| Turnaround Time | | Report Supplements | | | |
|---|---|---|---|---|---|
| Availability contingent upon lab approval; additional fees may apply. | | | | | |
| Standard 5 day → Except as noted | X | None Required | | None Required | |
| 10 day | | Batch QC | | Basic EDD | |
| Rush 3 day | | Category A | | NYSDEC EDD | |
| Rush 2 day | | Category B | | | |
| Rush 1 day | | | | | |
| Date Needed _____ please indicate date needed: | | Other please indicate package needed: | | Other EDD please indicate EDD needed: | |

DAN Noll 12/28/20 1025
Sampled By — Date/Time

Relinquished By — Date/Time 12/28/20 1030

Emily Taumen 12/28/2020 1055
Received By — Date/Time

Received @ Lab By 12/28/2020 11:02 — Date/Time

2°C 12/28/2020 10:58

Total Cost:

P.I.F.

**By signing this form, client agrees to Paradigm Terms and Conditions (reverse).**



See additional page for sample conditions.

PARADIGM

# *Chain of Custody Supplement*

**Client:** LaBella Associates **Completed by:** Glenn Pezzulo

**Lab Project ID:** 206021 **Date:** 12/28/2020

## *Sample Condition Requirements*

Per NELAC/ELAP 210/241/242/243/244

| Condition | *NELAC compliance with the sample condition requirements upon receipt* Yes | No | N/A |
|---|---|---|---|
| **Container Type** | X | | |
| Comments | | | |
| *Transferred to method-compliant container* | | | X |
| **Headspace (<1 mL)** | | | X |
| Comments | | | |
| **Preservation** | | | X |
| Comments | | | |
| **Chlorine Absent (<0.10 ppm per test strip)** | | | X |
| Comments | | | |
| **Holding Time** | X | | |
| Comments | | | |
| **Temperature** | | | X |
| Comments | 2°C | | |
| **Compliant Sample Quantity/Type** | X | | |
| Comments | | | |



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179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 1

L2057782 11148

# CHAIN OF CUSTODY

| REPORT TO: | | INVOICE TO: | | | |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | LAB PROJECT #: | CLIENT PROJECT #: |
| ADDRESS: | 179 Lake Avenue | ADDRESS: | | | |
| CITY: Rochester STATE: NY ZIP: 14608 | | CITY: STATE: ZIP: | | TURNAROUND TIME: (WORKING DAYS) STD OTHER | |
| PHONE: FAX: | | PHONE: FAX: | | ☐ 1 ☐ 2 ☐ 3 ☐ 7 | |
| PROJECT NAME/SITE NAME: | ATTN: Reporting | ATTN: | Accounts Payable | | |
| | COMMENTS: Please email results to reporting@paradigmenv.com | | | Date Due: | |

## REQUESTED ANALYSIS

| | DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER OF CONTAINERS | Bromide | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12/23/2020 | 13:25 | | X | 206021-01 | Ground water | 1 | X | 2758 µs | |
| 2 | ↓ | 13:35 | | ↓ | -02 | ↓ | ↓ | ↓ | 4699 µs | |
| 3 | 12/24/2020 | 11:50 | | | -03 | | | | 2789 µs | |
| 4 | ↓ | 12:00 | | | -04 | | | | 4663 µs | |
| 5 | 12/26/2020 | 14:30 | | | -05 | | | | 2935 µs | |
| 6 | ↓ | 14:40 | | | -06 | | | | 4761 µs | |
| 7 | 12/27/2020 | 14:30 | | | -07 | | | | 2876 µs | |
| 8 | ↓ | 14:35 | | ↓ | -08 | ↓ | ↓ | ↓ | 4740 µs | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | Reporting Limit 0.1 mg/L | |

**LAB USE ONLY BELOW THIS LINE**

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: | Y ☐ | N ☐ |
| Comments: | | |

Client

| | | |
|---|---|---|
| Sampled By | Date/Time | |
| [signature] | 12/28/2020 | 16:00 |
| Relinquished By | Date/Time | |
| [signature] Courier Lam RAL | 12/28/20 | 16:00 |
| Received By | Date/Time | |
| [signature] | 12/29/20 | 00:15 |
| Received By | Date/Time | |
| | | |
| Received @ Lab By | Date/Time | |

Total Cost:

P.I.F.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 1

L2057786 11148

# CHAIN OF CUSTODY

| REPORT TO: | | INVOICE TO: | | | |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | LAB PROJECT #: | CLIENT PROJECT #: |
| ADDRESS: | 179 Lake Avenue | ADDRESS: | | | |
| CITY: | Rochester STATE: NY ZIP: 14608 | CITY: | STATE: ZIP: | TURNAROUND TIME: (WORKING DAYS) | |
| PHONE: | FAX: | PHONE: | FAX: | Rush STD OTHER | |
| PROJECT NAME/SITE NAME: | | ATTN: | Reporting | ATTN: Accounts Payable | ☐1 ☐2 ☐3 ☐5 |
| | | COMMENTS: | Please email results to reporting@paradigmenv.com | Date Due: 12/30/2020 | |

## REQUESTED ANALYSIS

| | DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER OF CONTAINERS | Bromide | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12/28/2020 | 10:05 | | X | 206021-09 | Water (Ground) | 1 | X | 2865 µs | |
| 2 | " | 10:15 | | X | -10 | " | 1 | X | 4792 µs | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | Reporting Limit 0.1 mg/L | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**LAB USE ONLY BELOW THIS LINE**

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: | Y ☐ | N ☐ |
| Comments: | | |

Client

| | | |
|---|---|---|
| Sampled By | Date/Time | |
| [signature] | 12/28/2020 | 16:00 |
| Relinquished By | Date/Time | |
| [signature] MAL | 12/28/20 | 16:00 |
| Received By | Date/Time | |
| [signature] | 12/29/20 | 00:15 |
| Received By | Date/Time | |
| | | |
| Received @ Lab By | Date/Time | |

Total Cost:

P.I.F.

PARADIGM

*Analytical Report For*

# LaBella Associates, P.C.

*For Lab Project ID*

## 206032

*Referencing*

210173 FESL

*Prepared*

Friday, January 8, 2021

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206032

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173 FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-15 | | |
| **Lab Sample ID:** | 206032-01 | **Date Sampled:** | 12/29/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/29/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.65** | mg/L | | 1/7/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206032

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173 FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-16 | | |
| **Lab Sample ID:** | 206032-02 | **Date Sampled:** | 12/29/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/29/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.12** | mg/L | | 1/7/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

# Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

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All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

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NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

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*"<" = Analyzed for but not detected at or above the quantitation limit.*
*"E" = Result has been estimated, calibration limit exceeded.*
*"Z" = See case narrative.*
*"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.*
*"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.*
*"B" = Method blank contained trace levels of analyte. Refer to included method blank report.*
*"J" = Result estimated between the quantitation limit and half the quantitation limit.*
*"L" = Laboratory Control Sample recovery outside accepted QC limits.*
*"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.*
*"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.*
*"*" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
*"(1)" = Indicates data from primary column used for QC calculation.*
*"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.*
*"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.*

# GENERAL TERMS AND CONDITIONS
# LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

**Warranty.** Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

**Scope and Compensation.** LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

**Prices.** Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

**Limitations of Liability.** In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

**Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

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Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

**Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

**Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

**Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

**Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 2

# CHAIN OF CUSTODY

206032

PARADIGM

| REPORT TO: | | INVOICE TO: | | |
|---|---|---|---|---|
| CLIENT: | LaBella Assoc. | CLIENT: | SAME | LAB PROJECT ID: FESL |
| ADDRESS: | 300 State St | ADDRESS: | | |
| CITY: | Rochester STATE: NY ZIP 14614 | CITY: STATE: ZIP: | | Quotation #: |
| PHONE: | 585-301-8458 | PHONE: | | Email: dNoll@labellapc.com |
| ATTN: | DAN Noll | ATTN: | | |

**PROJECT REFERENCE**: 21073

**Matrix Codes:**
AQ - Aqueous Liquid; NQ - Non-Aqueous Liquid; WA - Water; WG - Groundwater; DW - Drinking Water; WW - Wastewater; SO - Soil; SL - Sludge; SD - Solid; PT - Paint; WP - Wipe; CK - Caulk; OL - Oil; AR - Air

**REQUESTED ANALYSIS**

| DATE COLLECTED | TIME COLLECTED | COMPOSITE | GRAB | SAMPLE IDENTIFIER | MATRIX CODES | NUMBER OF CONTAINERS | Brainid | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| 12/29/20 | 1005 | | X | LBA-SBW-15 | WG | 1 | X | 2829 MS | 01 |
| 12/29/20 | 1015 | | X | LBA-SBW-16 | WG | 1 | X | 4732 MS | 02 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |

| Turnaround Time | | Report Supplements | | | |
|---|---|---|---|---|---|
| Availability contingent upon lab approval; additional fees may apply. | | | | | |
| Standard 5 day | X | None Required | ☐ | None Required | ☐ |
| 10 day | ☐ | Batch QC | ☐ | Basic EDD | ☐ |
| Rush 3 day | ☐ | Category A | ☐ | NYSDEC EDD | ☐ |
| Rush 2 day | ☐ | Category B | ☐ | | |
| Rush 1 day | ☐ | | | | |
| Date Needed _____ please indicate date needed: | | Other ☐ please indicate peckege needed: | | Other EDD ☐ please indicate EDD needed : | |

| | | |
|---|---|---|
| DAN Noll | 12/29/20 1030 | Total Cost: |
| Sampled By | Date/Time | |
| Relinquished By | 12/29/20 1030 | |
| Received By | 12/29/2020 1030 | P.I.F. |
| Received @ Lab By | 12/29/2020 10:30 | |

6 °C 12/29/2020 10:30

**By signing this form, client agrees to Paradigm Terms and Conditions (reverse).**



See additional page for sample conditions.

PARADIGM

# *Chain of Custody Supplement*

**Client:** La Bella Associates **Completed by:** Glenn Perzulo

**Lab Project ID:** 206032 **Date:** 12/29/2020

## *Sample Condition Requirements*

Per NELAC/ELAP 210/241/242/243/244

| Condition | *NELAC compliance with the sample condition requirements upon receipt* Yes | No | N/A |
|---|---|---|---|
| **Container Type** | X | | |
| Comments | | | |
| *Transferred to method-compliant container* | | | X |
| **Headspace (<1 mL)** | | | X |
| Comments | | | |
| **Preservation** | | | X |
| Comments | | | |
| **Chlorine Absent (<0.10 ppm per test strip)** | | | X |
| Comments | | | |
| **Holding Time** | X | | |
| Comments | | | |
| **Temperature** | | | X |
| Comments | 6 °C | | |
| **Compliant Sample Quantity/Type** | X | | |
| Comments | | | |



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179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 1

L2057948

11148

# CHAIN OF CUSTODY

| REPORT TO: | | INVOICE TO: | | | |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | LAB PROJECT #: | CLIENT PROJECT #: |
| ADDRESS: | 179 Lake Avenue | ADDRESS: | | | |
| CITY: | Rochester STATE: NY ZIP: 14608 | CITY: | STATE: ZIP: | TURNAROUND TIME: (WORKING DAYS) | |
| PHONE: | FAX: | PHONE: | FAX: | STD | OTHER |
| PROJECT NAME/SITE NAME: | | ATTN: | Reporting | ☐ 1 ☐ 2 ☐ 3 ☐ 5 7 | ☐ |
| | | ATTN: | Accounts Payable | | |
| | | COMMENTS: | Please email results to reporting@paradigmenv.com | Date Due: | |

REQUESTED ANALYSIS

| | DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER OF CONTAINERS | Bromide | | | | | | | | | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12/29/2020 | 10:05 | | X | 206032-01 | Water | 1 | X | | | | | | | | | | |
| 2 | 12/29/2020 | 10:15 | | X | ↓ -02 | ↓ | 1 | X | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | Reporting Limit | |
| 5 | | | | | | | | | | | | | | | | | 0.1 mg/L | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | |

**LAB USE ONLY BELOW THIS LINE**

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: | Y ☐ | N ☐ |
| Comments: | | |

Client

Sampled By — Date/Time: 12/29/2020 16:00

Relinquished By — Date/Time

Received By: R Cunningham AAL — Date/Time: 12/29/20 16:45

Received By — Date/Time: 12/30/20 0020

Received @ Lab By — Date/Time

Total Cost:

P.I.F. ☐

PARADIGM

*Analytical Report For*

# LaBella Associates, P.C.

*For Lab Project ID*

## 206054

*Referencing*

210173, FESL

*Prepared*

Monday, January 4, 2021

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206054

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173, FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-15 | | |
| **Lab Sample ID:** | 206054-01 | **Date Sampled:** | 12/30/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/30/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **2.82** | mg/L | | 12/31/2020 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206054

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173, FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-16 | | |
| **Lab Sample ID:** | 206054-02 | **Date Sampled:** | 12/30/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/30/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **2.62** | mg/L | | 12/31/2020 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206054

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173, FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | ML-2 | | |
| **Lab Sample ID:** | 206054-03 | **Date Sampled:** | 12/30/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/30/2020 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **23.5** | mg/L | | 12/31/2020 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206054

**Client:** **LaBella Associates, P.C.**

**Project Reference:** 210173, FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | IP-2 | | |
| **Lab Sample ID:** | 206054-04 | **Date Sampled:** | 12/30/2020 |
| **Matrix:** | Groundwater | **Date Received:** | 12/30/2020 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **231** | mg/L | | 1/3/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

# Analytical Report Appendix

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LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

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**Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

**Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

**Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

# CHAIN OF CUSTODY

206054

PARADIGM

| REPORT TO: | | INVOICE TO: | | |
|---|---|---|---|---|
| CLIENT: | LaBella Associates | CLIENT: | | LAB PROJECT ID: FESL |
| ADDRESS: | 300 State St | ADDRESS: | | |
| CITY: | Rochester STATE: NY ZIP 14610 | CITY: | STATE: ZIP: | Quotation #: |
| PHONE: | 585-301-8458 | PHONE: | | Email: |
| ATTN: | DAN Noll | ATTN: | | |

**PROJECT REFERENCE**

21073

**Matrix Codes:**

**AQ** - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

**REQUESTED ANALYSIS**

| DATE COLLECTED | TIME COLLECTED | COMPOSITE | GRAB | SAMPLE IDENTIFIER | MATRIX CODES | NUMBER OF CONTAINERS | Bromide | | | | | | | | | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/30/20 | 1310 | | X | LBA-SBW-15 | WG | 1 | X | | | | | | | | | 2817 µS | 01 |
| 12/30/20 | 1315 | | X | LBA-SBW-16 | | 1 | X | | | | | | | | | 4670 µS | 02 |
| 12/30/20 | 1320 | | X | ML-2 | | 1 | X | | | | | | | | | ~~2214 µS~~ 4034 µS | 03 |
| 12/30/20 | 1325 | | X | IP-2 | | 1 | X | | | | | | | | | ~~4034~~ 2214 µS | 04 |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 9°C 12/30/2020 1405 | |

| Turnaround Time | | Report Supplements | | | |
|---|---|---|---|---|---|
| Availability contingent upon lab approval; additional fees may apply. | | | | | |
| Standard 5 day | ☐ | None Required | ☐ | None Required | ☐ |
| 10 day | ☐ | Batch QC | ☐ | Basic EDD | ☐ |
| Rush 3 day | ☐ | Category A | ☐ | NYSDEC EDD | ☐ |
| Rush 2 day | ☒ | Category B | ☐ | | |
| Rush 1 day | ☐ | | | | |
| Date Needed _____ please indicate date needed: | | Other ☐ please indicate package needed: | | Other EDD ☐ please indicate EDD needed: | |

| | | |
|---|---|---|
| Sampled By | 12/30/2020 1315 Date/Time | Total Cost: |
| Relinquished By | 12/30/2020 1400 Date/Time | |
| Received By: Emily Farmer | 12/30/2020 1402 Date/Time | P.I.F. |
| Received @ Lab By: [illegible] | 12/30/2020 1407 Date/Time | |

**By signing this form, client agrees to Paradigm Terms and Conditions (reverse).**



See additional page for sample conditions.

PARADIGM

# Chain of Custody Supplement

**Client:** LaBella **Completed by:** Molly Nail

**Lab Project ID:** 206054 **Date:** 12/30/2020

## Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

| Condition | NELAC compliance with the sample condition requirements upon receipt<br>Yes | No | N/A |
|---|---|---|---|
| **Container Type** | X | | |
| Comments | | | |
| *Transferred to method-compliant container* | | | X |
| **Headspace (<1 mL)** | | | X |
| Comments | | | |
| **Preservation** | | | X |
| Comments | | | |
| **Chlorine Absent (<0.10 ppm per test strip)** | | | X |
| Comments | | | |
| **Holding Time** | X | | |
| Comments | | | |
| **Temperature** | | X | |
| Comments | 9°C | | |
| **Compliant Sample Quantity/Type** | X | | |
| Comments | | | |

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

11148

# CHAIN OF CUSTODY

Rush

| REPORT TO: | | INVOICE TO: | | | |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | LAB PROJECT #: | CLIENT PROJECT #: |
| ADDRESS: | 179 Lake Avenue | ADDRESS: | | | |
| CITY: Rochester STATE: NY ZIP: 14608 | | CITY: STATE: ZIP: | | TURNAROUND TIME: (WORKING DAYS) | |
| PHONE: FAX: | | PHONE: FAX: | | STD | OTHER |
| PROJECT NAME/SITE NAME: | ATTN: Reporting | ATTN: | Accounts Payable | ☐ 1 ☐ 2 ☐ 3 ☐ 5 | |
| | COMMENTS: Please email results to reporting@paradigmenv.com | | | Date Due: 1/4/2021 | |

## REQUESTED ANALYSIS

| DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER CONTAINERS | Bromide | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| 1 12/30/2020 | 1310 | | | 2016054-01 | GW | 1 | X | | |
| 2 | 1315 | | | 02 | | 1 | X | | |
| 3 | 1320 | | | 03 | | 1 | X | | |
| 4 | 1325 | | | 04 | | 1 | X | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | Reporting Limit 0.1 mg/L | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |

**LAB USE ONLY BELOW THIS LINE**

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: | Y ☐ | N ☐ |
| Comments: | | |

Client

| | | |
|---|---|---|
| Sampled By | Molly Vail | Date/Time 12/30/2020 1600 |
| Relinquished By | | Date/Time |
| Received By | R Cunningham AAL | 12/30/20 17:27 |
| Received By | | 12/31/20 0050 Date/Time |
| Received @ Lab By | | Date/Time |

Total Cost:

P.I.F.

PARADIGM

*Analytical Report For*

# LaBella Associates, P.C.

*For Lab Project ID*

## 206062

*Referencing*

N/A

*Prepared*

Tuesday, January 12, 2021

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206062

**Client:** **LaBella Associates, P.C.**

**Project Reference:** N/A

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-15 | | |
| **Lab Sample ID:** | 206062-01 | **Date Sampled:** | 12/31/2020 |
| **Matrix:** | Water | **Date Received:** | 12/31/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.2** | mg/L | | 1/8/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 206062

**Client:** **LaBella Associates, P.C.**

**Project Reference:** N/A

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-16 | | |
| **Lab Sample ID:** | 206062-02 | **Date Sampled:** | 12/31/2020 |
| **Matrix:** | Water | **Date Received:** | 12/31/2020 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **2.9** | mg/L | | 1/8/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

# Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

*"<" = Analyzed for but not detected at or above the quantitation limit.*
*"E" = Result has been estimated, calibration limit exceeded.*
*"Z" = See case narrative.*
*"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.*
*"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.*
*"B" = Method blank contained trace levels of analyte. Refer to included method blank report.*
*"J" = Result estimated between the quantitation limit and half the quantitation limit.*
*"L" = Laboratory Control Sample recovery outside accepted QC limits.*
*"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.*
*"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.*
*"*" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
*"(1)" = Indicates data from primary column used for QC calculation.*
*"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.*
*"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.*

# GENERAL TERMS AND CONDITIONS
# LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

**Warranty.** Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

**Scope and Compensation.** LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

**Prices.** Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

**Limitations of Liability.** In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

**Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

**Sample Handling.** Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

**Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

**Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

**Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

**Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311



PARADIGM

# CHAIN OF CUSTODY

| REPORT TO: | | INVOICE TO: | | |
|---|---|---|---|---|
| CLIENT: | LaBella Associates | CLIENT: | | LAB PROJECT ID: 206062 |
| ADDRESS: | 300 State Street | ADDRESS: | | |
| CITY: | Rochester STATE: NY ZIP 14614 | CITY: STATE: ZIP: | | Quotation #: |
| PHONE: | 585-301-8458 | PHONE: | | Email: |
| ATTN: | Dan Noll | ATTN: | | |

PROJECT REFERENCE:

**Matrix Codes:**
**AQ** - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

REQUESTED ANALYSIS

| DATE COLLECTED | TIME COLLECTED | COMPOSITE | GRAB | SAMPLE IDENTIFIER | MATRIX CODES | NUMBER OF CONTAINERS | Bromide | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| 12/31/20 | 9:45 | | X | LAB-SBW-15 | W | 1 | x | 2794 µS | 01 |
| 12/31/20 | 9:50 | | X | LAB-SBW-16 | W | 1 | x | 4720 µS | 02 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| Turnaround Time | | Report Supplements | | | |
|---|---|---|---|---|---|
| Availability contingent upon lab approval; additional fees may apply. | | | | | |
| Standard 5 day | X | None Required | | None Required | |
| 10 day | | Batch QC | | Basic EDD | |
| Rush 3 day | | Category A | | NYSDEC EDD | |
| Rush 2 day | | Category B | | | |
| Rush 1 day | | | | | |
| Date Needed _____ please indicate date needed: | | Other please indicate package needed: | | Other EDD please indicate EDD needed: | |

Sampled By: 12/31/20 10:00 Date/Time

Relinquished By: 12/31/20 Date/Time

Received By: 12/31/20 10:25 Date/Time

Received @ Lab By: 12/31/2020 10:33 Date/Time

7 °C 12/31/2020 10:29

Total Cost:

P.I.F.

**By signing this form, client agrees to Paradigm Terms and Conditions (reverse).**



See additional page for sample conditions.

# Chain of Custody Supplement

**Client:** LaBella Associates **Completed by:** Glenn Pezzulo

**Lab Project ID:** 206062 **Date:** 12/31/2020

## Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

| Condition | NELAC compliance with the sample condition requirements upon receipt: Yes | No | N/A |
|---|---|---|---|
| **Container Type** | X | | |
| Comments | | | |
| *Transferred to method-compliant container* | | | X |
| **Headspace (<1 mL)** | | | X |
| Comments | | | |
| **Preservation** | | | X |
| Comments | | | |
| **Chlorine Absent (<0.10 ppm per test strip)** | | | X |
| Comments | | | |
| **Holding Time** | X | | |
| Comments | | | |
| **Temperature** | | | X |
| Comments | 7°C | | |
| **Compliant Sample Quantity/Type** | X | | |
| Comments | | | |

2058754
1 of 1

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

# CHAIN OF CUSTODY

11148

| REPORT TO: | | INVOICE TO: | | | |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | LAB PROJECT #: | CLIENT PROJECT #: |
| ADDRESS: | 179 Lake Avenue | ADDRESS: | | | |
| CITY: Rochester STATE: NY ZIP: 14608 | | CITY: STATE: ZIP: | | TURNAROUND TIME: (WORKING DAYS) | |
| PHONE: FAX: | | PHONE: FAX: | | STD OTHER | |
| PROJECT NAME/SITE NAME: | | ATTN: | Reporting | ATTN: | Accounts Payable | ☐ 1 ☐ 2 ☐ 3 ☒ 7 ☐ |
| | | COMMENTS: | Please email results to reporting@paradigmenv.com | Date Due: | |

## REQUESTED ANALYSIS

| | DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER OF CONTAINERS | Bromide | | | | | | | | | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12/31/2020 | 09:45 | | X | 206062-01 | Water | 1 | X | | | | | | | | | | |
| 2 | 12/31/2020 | 09:50 | | X | " -02 | Water | 1 | X | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | Reporting Limit | |
| 5 | | | | | | | | | | | | | | | | | 0.1 mg/L | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | |

**LAB USE ONLY BELOW THIS LINE**

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: | Y ☐ | N ☐ |
| Comments: | | |

Client

| | | |
|---|---|---|
| Sampled By | Date/Time | |
| [signature] | 12/31/2020 | 11:30 |
| Relinquished By | Date/Time | |
| [signature] RCunningham AAC | 12/31/20 | 11:58 |
| Received By | Date/Time | |
| [signature] | 12/31/20 | 18:23 |
| Received By | Date/Time | |
| Received @ Lab By | Date/Time | |

Total Cost:

P.I.F.

PARADIGM

*Analytical Report For*

# LaBella Associates, P.C.

*For Lab Project ID*

## 210135

*Referencing*

FESL

*Prepared*

Tuesday, January 19, 2021

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210135

**Client:** **LaBella Associates, P.C.**

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-15 | | |
| **Lab Sample ID:** | 210135-01 | **Date Sampled:** | 1/4/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/11/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.31** | mg/L | M | 1/13/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210135

**Client:** **LaBella Associates, P.C.**

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-16 | | |
| **Lab Sample ID:** | 210135-02 | **Date Sampled:** | 1/4/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/11/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **2.87** | mg/L | | 1/13/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210135

**Client:** **LaBella Associates, P.C.**

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-15 | | |
| **Lab Sample ID:** | 210135-03 | **Date Sampled:** | 1/3/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/11/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.43** | mg/L | | 1/13/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210135

**Client:** **LaBella Associates, P.C.**

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LBA-SBW-16 | | |
| **Lab Sample ID:** | 210135-04 | **Date Sampled:** | 1/3/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/11/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **2.91** | mg/L | | 1/13/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210135

**Client:** **LaBella Associates, P.C.**

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-15 | | |
| **Lab Sample ID:** | 210135-05 | **Date Sampled:** | 1/5/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/11/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.80** | mg/L | | 1/13/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

**Lab Project ID:** 210135

**Client:** LaBella Associates, P.C.

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-16 | | |
| **Lab Sample ID:** | 210135-06 | **Date Sampled:** | 1/5/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/11/2021 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **2.85** | mg/L | | 1/13/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

**Lab Project ID:** 210135

**Client:** LaBella Associates, P.C.

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-15-01062021 | | |
| **Lab Sample ID:** | 210135-07 | **Date Sampled:** | 1/6/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/11/2021 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.50** | mg/L | | 1/13/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210135

**Client:** **LaBella Associates, P.C.**

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-16-01062021 | | |
| **Lab Sample ID:** | 210135-08 | **Date Sampled:** | 1/6/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/11/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **2.76** | mg/L | | 1/13/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210135

**Client:** **LaBella Associates, P.C.**

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-15-01072021 | | |
| **Lab Sample ID:** | 210135-09 | **Date Sampled:** | 1/7/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/11/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.56** | mg/L | | 1/13/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210135

**Client:** **LaBella Associates, P.C.**

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-16-01072021 | | |
| **Lab Sample ID:** | 210135-10 | **Date Sampled:** | 1/7/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/11/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.06** | mg/L | | 1/13/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

**Lab Project ID:** 210135

**Client:** LaBella Associates, P.C.

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-15-01082021 | | |
| **Lab Sample ID:** | 210135-11 | **Date Sampled:** | 1/8/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/11/2021 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.33** | mg/L | | 1/13/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210135

**Client:** **LaBella Associates, P.C.**

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-16-01082021 | | |
| **Lab Sample ID:** | 210135-12 | **Date Sampled:** | 1/8/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/11/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.10** | mg/L | | 1/13/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

# Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

All soil/sludge samples have been reported on a dry weight basis, unless qualified "reported as received". Other solids are reported as received.

Low level Volatiles blank reports for soil/solid matrix are based on a nominal 5 gram weight. Sample results and reporting limits are based on actual weight, which may be more or less than 5 grams.

The Chain of Custody provides additional information, including compliance with sample condition requirements upon receipt. Sample condition requirements are defined under the 2003 NELAC Standard, sections 5.5.8.3.1 and 5.5.8.3.2.

NYSDOH ELAP does not certify for all parameters. Paradigm Environmental Services or the indicated subcontracted laboratory does hold certification for all analytes where certification is offered by ELAP unless otherwise specified. Aliquots separated for certain tests, such as TCLP, are indicated on the Chain of Custody and final reports with an "A" suffix.

Data qualifiers are used, when necessary, to provide additional information about the data. This information may be communicated as a flag or as text at the bottom of the report. Please refer to the following list of analyte-specific, frequently used data flags and their meaning:

*"<" = Analyzed for but not detected at or above the quantitation limit.*
*"E" = Result has been estimated, calibration limit exceeded.*
*"Z" = See case narrative.*
*"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.*
*"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.*
*"B" = Method blank contained trace levels of analyte. Refer to included method blank report.*
*"J" = Result estimated between the quantitation limit and half the quantitation limit.*
*"L" = Laboratory Control Sample recovery outside accepted QC limits.*
*"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.*
*"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.*
*"*" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
*"(1)" = Indicates data from primary column used for QC calculation.*
*"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.*
*"F" = denotes a parameter for which Paradigm does not carry certification, the results for which should therefore only be used where ELAP certification is not required, such as personal exposure assessment.*

# GENERAL TERMS AND CONDITIONS
# LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

**Warranty.** Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

**Scope and Compensation.** LAB agrees to perform the services described in the chain of custody to which these terms and conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described. LAB wi use LAB default method for all tests unless specified otherwise on the Work Order.
Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1-1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sale, use or other taxes. Such taxes will be added to invoice prices when required.

**Prices.** Compensation for services performed will be based on the current Lab Analytical Fee Schedule or on quotations agreed to in writing by the parties. Turnaround time based charges are determined from the time of resolution of all work order questions. Testimony, court appearances or data compilation for legal action will be charged separately. Evaluation and reporting of initial screening runs may incur additional fees.

**Limitations of Liability.** In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

**Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

**Sample Handling.** Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

**Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

**Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

**Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

**Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311



# CHAIN OF CUSTODY

210135

PARADIGM

| REPORT TO: | | INVOICE TO: | | |
|---|---|---|---|---|
| CLIENT: | LaBella Associates | CLIENT: | | LAB PROJECT ID: FESL |
| ADDRESS: | 300 State Street | ADDRESS: | | |
| CITY: | Rochester STATE: NY ZIP 14614 | CITY: STATE: ZIP: | | Quotation #: |
| PHONE: | 585-301-8458 | PHONE: | | Email: |
| ATTN: | Dan Noll | ATTN: | | |

**PROJECT REFERENCE**

**Matrix Codes:**
**AQ** - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

**REQUESTED ANALYSIS**

| DATE COLLECTED | TIME COLLECTED | COMPOSITE | GRAB | SAMPLE IDENTIFIER | MATRIX CODES | NUMBER OF CONTAINERS | Bromide | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| 1/4/21 | 13:30 | | X | LBA-SBW-15 | WG | 1 | X | Hold 2904 µS | 01 |
| 1/4/21 | 13:35 | | X | LBA-SBW-16 | WG | 1 | X | Hold 4847 µS | 02 |
| 1/3/21 | 13:40 | | X | LBA-SBW-15 | WG | 1 | X | Hold | 03 |
| 1/3/21 | 13:47 | | X | LBA-SBW-16 | WG | 1 | X | Hold | 04 |
| | | | | | | | | | |
| | | | | | | | | Run all Hold samples | |
| | | | | | | | | on a standard turn per | |
| | | | | | | | | DN / SD of 1/11/21 | |
| | | | | | | | | | |
| | | | | | | | | 3°C 1/4/21 1616 | |

| Turnaround Time | | Report Supplements | | | |
|---|---|---|---|---|---|
| Availability contingent upon lab approval; additional fees may apply. | | | | | |
| Standard 5 day | ☐ | None Required | ☐ | None Required | ☐ |
| 10 day | ☐ | Batch QC | ☐ | Basic EDD | ☐ |
| Rush 3 day | ☐ | Category A | ☐ | NYSDEC EDD | ☐ |
| Rush 2 day | ☐ | Category B | ☐ | | |
| Rush 1 day | ☐ | | | | |
| Date Needed: Hold | | Other | ☐ | Other EDD | ☐ |
| please indicate date needed: | | please indicate package needed: | | please indicate EDD needed: | |

| | | |
|---|---|---|
| Sampled By | ~~H24~~ 1/4/21 | 13:35 |
| Relinquished By | 1/4/21 | 16:15 |
| Received By: Emily Laumen | 1/4/21 | 1616 |
| Received @ Lab By | 1/11/21 | 09:31 |

Total Cost:

P.I.F.

**By signing this form, client agrees to Paradigm Terms and Conditions (reverse).**



See additional page for sample conditions.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311



# CHAIN OF CUSTODY

PARADIGM

| REPORT TO: | | INVOICE TO: | | |
|---|---|---|---|---|
| CLIENT: | Labella associates | CLIENT: | | LAB PROJECT ID: 210135 |
| ADDRESS: | 300 State St suite 200 | ADDRESS: | | |
| CITY: | Rochester, STATE: NY ZIP: 14614 | CITY: STATE: ZIP: | | Quotation #: |
| PHONE: | 585-454-6100 | PHONE: | | Email: |
| ATTN: | Dan Noll | ATTN: | | |

**PROJECT REFERENCE**

**Matrix Codes:**
**AQ** - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

**REQUESTED ANALYSIS**

| DATE COLLECTED | TIME COLLECTED | COMPOSITE | GRAB | SAMPLE IDENTIFIER | MATRIX CODES | NUMBER OF CONTAINERS | Br | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| 1/4/2021 | 1500 | | X | LAB-SBW-15 | WG | 1 | X | | 05 |
| 1/5/2021 | 1510 | | X | LAB-SBW-16 | | | X | | 06 |
| 1/6/2021 | 0940 | | X | LAB-SBW-15-01062021 | | | X | | 07 |
| 1/6/2021 | 0945 | | X | LAB-SBW-16-01062021 | | | X | HOLD Samples | 08 |
| 1/7/2021 | 1103 | | X | LAB-SBW-15-01072021 | | | X | | 09 |
| 1/7/2021 | 1110 | | X | LAB-SBW-16-01072021 | | | X | | 10 |
| 1/8/2021 | 1415 | | X | LAB-SBW-15-01082021 | | | X | | 11 |
| 1/8/2021 | 1420 | | X | LAB-SBW-16-01082021 | | | X | | 12 |
| | | | | | perchlorate/1,3,5,6,1 | | | | |
| | | | | | ctn 1/12/21 | | | Special 1/8/21 1521 | |

| Turnaround Time | | Report Supplements | | | |
|---|---|---|---|---|---|
| Availability contingent upon lab approval; additional fees may apply. | | | | | |
| Standard 5 day | ☐ | None Required | ☐ | None Required | ☐ |
| 10 day | ☐ | Batch QC | ☐ | Basic EDD | ☐ |
| Rush 3 day | ☐ | Category A | ☐ | NYSDEC EDD | ☐ |
| Rush 2 day | ☐ | Category B | ☐ | | |
| Rush 1 day | ☐ | | | | |
| Date Needed _____ please indicate date needed: | | Other ☐ please indicate package needed: _____ | | Other EDD ☐ please indicate EDD needed: _____ | |

| | | |
|---|---|---|
| Sampled By | 1/05/2021 - 1/08/2021 Date/Time | Total Cost: |
| Relinquished By | 1/08/2021 1515 Date/Time | |
| Received By | 1/8/2021 1515 Date/Time | P.I.F. |
| Received @ Lab By | 1/11/21 09:31 Date/Time | |

**By signing this form, client agrees to Paradigm Terms and Conditions (reverse).**



See additional page for sample conditions.

PARADIGM

# Chain of Custody Supplement

**Client:** LaBella Associates **Completed by:** Glenn Pezzulo

**Lab Project ID:** 210135 **Date:** 1/11/21

## Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

| Condition | NELAC compliance with the sample condition requirements upon receipt<br>Yes | No | N/A |
|---|---|---|---|
| **Container Type** | X | | |
| Comments | | | |
| *Transferred to method-compliant container* | | | X |
| **Headspace (<1 mL)** | | | X |
| Comments | | | |
| **Preservation** | | | X |
| Comments | | | |
| **Chlorine Absent (<0.10 ppm per test strip)** | | | X |
| Comments | | | |
| **Holding Time** | X | | |
| Comments | | | |
| **Temperature** | | | X |
| Comments | 3°C - 1/4/21 | 5°C iced - 1/8/21 | |
| **Compliant Sample Quantity/Type** | X | | |
| Comments | | | |



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PARADIGM ENVIRONMENTAL SERVICES, INC.

# CHAIN OF CUSTODY

1 of 2

L2101375 11148

| REPORT TO: | | INVOICE TO: | | | |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | LAB PROJECT #: | CLIENT PROJECT #: |
| ADDRESS: | 179 Lake Avenue | ADDRESS: | | | |
| CITY: Rochester STATE: NY ZIP: 14608 | | CITY: STATE: ZIP: | | TURNAROUND TIME: (WORKING DAYS) | |
| PHONE: FAX: | | PHONE: FAX: | | STD OTHER | |
| PROJECT NAME/SITE NAME: | ATTN: Reporting | ATTN: | Accounts Payable | ☐ 1 ☐ 2 ☐ 3 ☒ 5 | |
| | COMMENTS: Please email results to reporting@paradigmenv.com | | | Date Due: 1/19/21 | |

## REQUESTED ANALYSIS

| | DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER OF CONTAINERS | Bromide | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1/4/21 | 13:30 | | X | 210135-01 | Ground Water | 1 | X | Reporting Limit 0.1 mg/L | |
| 2 | 1/4/21 | 13:35 | | | -02 | | | | | |
| 3 | 1/3/21 | 13:40 | | | -03 | | | | | |
| 4 | 1/3/21 | 13:47 | | | -04 | | | | | |
| 5 | 1/5/21 | 15:00 | | | -05 | | | | | |
| 6 | 1/5/21 | 15:10 | | | -06 | | | | | |
| 7 | 1/6/21 | 09:40 | | | -07 | | | | | |
| 8 | 1/6/21 | 09:45 | | | -08 | | | | | |
| 9 | 1/7/21 | 11:03 | | | -09 | | | | | |
| 10 | 1/7/21 | 11:16 | | ↓ | -10 | ↓ | ↓ | ↓ | | |

**LAB USE ONLY BELOW THIS LINE**

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: | Y ☐ | N ☐ |
| Comments: | | |

Client

| | | |
|---|---|---|
| Sampled By | Date/Time | 1/11/21 16:00 |
| Relinquished By | Date/Time | 1/11/21 16:43 |
| Received By | Date/Time | 1/12/21 00:00 |
| Received By | Date/Time | |
| Received @ Lab By | Date/Time | |

Total Cost:

P.I.F. ☐

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

2 of 2

L2101375

11148

# CHAIN OF CUSTODY

| REPORT TO: | | INVOICE TO: | | | |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | LAB PROJECT #: | CLIENT PROJECT #: |
| ADDRESS: | 179 Lake Avenue | ADDRESS: | | | |
| CITY: | Rochester STATE: NY ZIP: 14608 | CITY: | STATE: ZIP: | TURNAROUND TIME: (WORKING DAYS) | |
| PHONE: | FAX: | PHONE: | FAX: | STD | OTHER |
| PROJECT NAME/SITE NAME: | | ATTN: | Reporting | ATTN: Accounts Payable | ☐1 ☐2 ☐3 ☒5 |
| | | COMMENTS: | Please email results to reporting@paradigmenv.com | Date Due: 1/19/21 | |

REQUESTED ANALYSIS

| | DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER OF CONTAINERS | Bromide | | | | | | | | | | REMARKS | PARADIGM LAB SAMPLE NUMBER | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1/8/21 | 14:15 | | X | 210135-11 | Water | 1 | X | | | | | | | | | | Reporting Limit 0.1 mg/L | | | | | | |
| 2 | 1/8/21 | 14:20 | | X | 1 -12 | 1 | 1 | X | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |

**LAB USE ONLY BELOW THIS LINE**

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: | Y ☐ | N ☐ |
| Comments: | | |

Client

| | | |
|---|---|---|
| Sampled By | Date/Time | |
| [signature] | 1/11/21 | 16:00 |
| Relinquished By | Date/Time | |
| R Cunningham AAL | 1/11/21 | 16143 |
| Received By | Date/Time | |
| [signature] | 1/11/21 | 00:00 |
| Received By | Date/Time | |
| | | |
| Received @ Lab By | Date/Time | |

Total Cost:

P.I.F. ☐

PARADIGM

PARADIGM
ENVIRONMENTAL SERVICES, INC.

*Analytical Report For*

# LaBella Associates, P.C.

*For Lab Project ID*

## 210186

*Referencing*

FESL

*Prepared*

Wednesday, January 20, 2021

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210186

**Client:** **LaBella Associates, P.C.**

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-15 | | |
| **Lab Sample ID:** | 210186-01 | **Date Sampled:** | 1/11/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/13/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.47** | mg/L | M | 1/17/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210186

**Client:** **LaBella Associates, P.C.**

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-16 | | |
| **Lab Sample ID:** | 210186-02 | **Date Sampled:** | 1/11/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/13/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.30** | mg/L | | 1/17/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210186

**Client:** **LaBella Associates, P.C.**

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-15 | | |
| **Lab Sample ID:** | 210186-03 | **Date Sampled:** | 1/13/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/13/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.57** | mg/L | | 1/17/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210186

**Client:** **LaBella Associates, P.C.**

**Project Reference:** FESL

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-16 | | |
| **Lab Sample ID:** | 210186-04 | **Date Sampled:** | 1/13/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/13/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **3.42** | mg/L | | 1/17/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

# Analytical Report Appendix

The reported results relate only to the samples as they have been received by the laboratory.

Each page of this document is part of a multipage report. This document may not be reproduced except in its entirety, without the prior consent of Paradigm Environmental Services, Inc.

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*"<" = Analyzed for but not detected at or above the quantitation limit.*
*"E" = Result has been estimated, calibration limit exceeded.*
*"Z" = See case narrative.*
*"D" = Sample, Laboratory Control Sample, or Matrix Spike Duplicate results above Relative Percent Difference limit.*
*"M" = Matrix spike recoveries outside QC limits. Matrix bias indicated.*
*"B" = Method blank contained trace levels of analyte. Refer to included method blank report.*
*"J" = Result estimated between the quantitation limit and half the quantitation limit.*
*"L" = Laboratory Control Sample recovery outside accepted QC limits.*
*"P" = Concentration differs by more than 40% between the primary and secondary analytical columns.*
*"NC" = Not calculable. Applicable to RPD if sample or duplicate result is non-detect or estimated (see primary report for data flags). Applicable to MS if sample is greater or equal to ten times the spike added. Applicable to sample surrogates or MS if sample dilution is 10x or higher.*
*"*" = Indicates any recoveries outside associated acceptance windows. Surrogate outliers in samples are presumed matrix effects. LCS demonstrates method compliance unless otherwise noted.*
*"(1)" = Indicates data from primary column used for QC calculation.*
*"A" = denotes a parameter for which ELAP does not offer approval as part of their laboratory certification program.*
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# GENERAL TERMS AND CONDITIONS
# LABORATORY SERVICES

These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory (LAB) and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent, or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to the LAB. The invalidity or unenforceability in whole or in part of any provision, tern or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term, or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term, or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state which services are procured.

**Warranty.** Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings, and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

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**Limitations of Liability.** In the event of any error, omission, or other professional negligence, the sole and exclusive responsibility of LAB shall be to re-perform the deficient work at its own expense and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.
LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

**Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

**Sample Handling.** Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

**Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

**Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

**Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

**Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311



PARADIGM

# CHAIN OF CUSTODY

| REPORT TO: | | INVOICE TO: | | |
|---|---|---|---|---|
| CLIENT: LaBella associates | | CLIENT: | | LAB PROJECT ID: 210186 |
| ADDRESS: 300 State Street | | ADDRESS: | | |
| CITY: Rochester STATE: NY ZIP: 14614 | | CITY: STATE: ZIP: | | Quotation #: |
| PHONE: 585-454-6110 | | PHONE: | | Email: |
| ATTN: Dan Noll | | ATTN: | | |

**PROJECT REFERENCE**

FRSL

**Matrix Codes:**

**AQ** - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

**REQUESTED ANALYSIS**

| DATE COLLECTED | TIME COLLECTED | COMPOSITE | GRAB | SAMPLE IDENTIFIER | MATRIX CODES | NUMBER OF CONTAINERS | 1,4-D | | | | | | | | | | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/11/2021 | 1550 | | X | LAB-SBW-15 | WG | 1 | X | | | | | | | | | | | 01 |
| 1/11/2021 | 1545 | | X | LAB-SBW-16 | | 1 | X | | | | | | | | | | | 02 |
| 1/12/2021 | 1545 | | X | LAB-SBW-15 | | | X | | | | | | | | | | | |
| 1/12/2021 | 1550 | | X | LAB-SBW-16 | | | X | | | | | | | | | | | |
| 1/13/2021 | 0905 | | X | LAB-SBW-15 | | 1 | X | | | | | | | | | | | 03 |
| 1/13/2021 | 0910 | | X | LAB-SBW-16 | ↓ | 1 | X | | | | | | | | | | | 04 |
| | | | | | Archive | 1 | X | | | | | | | | | | | |
| | | | | | GP 1/13/21 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

| Turnaround Time | | Report Supplements | | | |
|---|---|---|---|---|---|
| Availability contingent upon lab approval; additional fees may apply. | | | | | |
| Standard 5 day | ☒ | None Required | ☐ | None Required | ☐ |
| 10 day | ☐ | Batch QC | ☐ | Basic EDD | ☐ |
| Rush 3 day | ☐ | Category A | ☐ | NYSDEC EDD | ☐ |
| Rush 2 day | ☐ | Category B | ☐ | | |
| Rush 1 day | ☐ | | | | |
| Date Needed _____ please indicate date needed: | | Other ☐ please indicate package needed: | | Other EDD ☐ please indicate EDD needed: | |

Katherine Thiang — Sampled By — 1/11/2021 1545 — Date/Time

Katherine Thiang — Relinquished By — 1/12/2021 0930 — Date/Time

Emily Farmer — Received By — 1/13/21 0933 — Date/Time

2P — Received @ Lab By — 1/13/21 09:42 — Date/Time

3°C 1/13/21 09:37

Total Cost: ☐

P.I.F. ☐

**By signing this form, client agrees to Paradigm Terms and Conditions (reverse).**



See additional page for sample conditions.

PARADIGM

# Chain of Custody Supplement

**Client:** LaBella Associates **Completed by:** Glenn Pezzulo

**Lab Project ID:** 210186 **Date:** 1/13/21

## Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

| Condition | NELAC compliance with the sample condition requirements upon receipt | | |
|---|---|---|---|
| | Yes | No | N/A |
| **Container Type** | X | | |
| Comments | | | |
| *Transferred to method-compliant container* | | | X |
| **Headspace (<1 mL)** | | | X |
| Comments | | | |
| **Preservation** | | | X |
| Comments | | | |
| **Chlorine Absent (<0.10 ppm per test strip)** | | | X |
| Comments | | | |
| **Holding Time** | X | | |
| Comments | | | |
| **Temperature** | | | X |
| Comments | 3 °C | | |
| **Compliant Sample Quantity/Type** | X | | |
| Comments | | | |

179 Lake Ayenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 1

L2101874

11148

# CHAIN OF CUSTODY

| REPORT TO: | | INVOICE TO: | | | |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | LAB PROJECT #: | CLIENT PROJECT #: |
| ADDRESS: | 179 Lake Avenue | ADDRESS: | | | |
| CITY: Rochester STATE: NY ZIP: 14608 | | CITY: STATE: ZIP: | | TURNARDUND TIME: (WORKING DAYS) | |
| PHONE: FAX: | | PHONE: FAX: | | STD | OTHER |
| PROJECT NAME/SITE NAME: | ATTN: Reporting | ATTN: | Accounts Payable | 1 2 3 X 5 | |
| | COMMENTS: Please email results to reporting@paradigmenv.com | | | Date Due: 1/21/21 | |

## REQUESTED ANALYSIS

| | DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER OF CONTAINERS | Bromide | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1/11/21 | 15:50 | | X | 210186-01 | Ground water | 1 | X | | |
| 2 | 1/11/21 | 15:45 | | | -02 | | | | | |
| 3 | 1/13/21 | 09:05 | | | -03 | | | | | |
| 4 | 1/13/21 | 09:10 | | | -04 | | | | | |
| 5 | | | | | | | | | Reporting Limit | |
| 6 | | | | | | | | | 0.1 mg/L | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**LAB USE ONLY BELOW THIS LINE**

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: | Y ☐ | N ☐ |
| Comments: | | |

Client

| | | |
|---|---|---|
| Sampled By | Date/Time | |
| [signature] | 1/13/21 | 16:00 |
| Relinquished By | Date/Time | |
| R Cunningham RAL | 1/13/21 | 16:45 |
| Received By | Date/Time | |
| [signature] | 1/14/21 | 00720 |
| Received By | Date/Time | |
| | | |
| Received @ Lab By | Date/Time | |

Total Cost:

P.I.F. ☐

PARADIGM

*Analytical Report For*

# LaBella Associates, P.C.

*For Lab Project ID*

## 210255

*Referencing*

N/A

*Prepared*

Wednesday, January 20, 2021

Any noncompliant QC parameters or other notes impacting data interpretation are flagged or documented on the final report or are noted below.

Certifies that this report has been approved by the Technical Director or Designee

179 Lake Avenue • Rochester, NY 14608 • (585) 647-2530 • Fax (585) 647-3311 • ELAP ID# 10958

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210255

**Client:** **LaBella Associates, P.C.**

**Project Reference:** N/A

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-15 | | |
| **Lab Sample ID:** | 210255-01 | **Date Sampled:** | 1/15/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/18/2021 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **1.32** | mg/L | M | 1/19/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210255

**Client:** **LaBella Associates, P.C.**

**Project Reference:** N/A

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-16 | | |
| **Lab Sample ID:** | 210255-02 | **Date Sampled:** | 1/15/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/18/2021 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **0.961** | mg/L | | 1/19/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210255

**Client:** **LaBella Associates, P.C.**

**Project Reference:** N/A

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-15 | | |
| **Lab Sample ID:** | 210255-03 | **Date Sampled:** | 1/18/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/18/2021 |

## ***Bromide***

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **1.41** | mg/L | | 1/19/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

PARADIGM
ENVIRONMENTAL SERVICES, INC.

**Lab Project ID:** 210255

**Client:** **LaBella Associates, P.C.**

**Project Reference:** N/A

| | | | |
|---|---|---|---|
| **Sample Identifier:** | LAB-SBW-16 | | |
| **Lab Sample ID:** | 210255-04 | **Date Sampled:** | 1/18/2021 |
| **Matrix:** | Groundwater | **Date Received:** | 1/18/2021 |

## *Bromide*

| Analyte | Result | Units | Qualifier | Date Analyzed |
|---|---|---|---|---|
| Bromide | **0.946** | mg/L | | 1/19/2021 |

**Method Reference(s):** EPA 300.0
**Subcontractor ELAP ID:** 11148

# Analytical Report Appendix

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LAB shall have no liability, obligation, or responsibility of any kind for losses, costs, expenses, or other damages (including but not limited to any special, direct, incidental or consequential damages) with respect to LAB's services or results.
All results provided by LAB are strictly for the use of its clients and LAB is in no way responsible for the use of such results by clients or third parties. All reports should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of these reports. Client may not assign the lab report without the written consent of the LAB.
Client covenants and agrees, at its/his/her sole expense, to indemnify, protect, defend, and save harmless the LAB from and against any and all damages, losses, liabilities, obligations, penalties, claims, litigation, demands, defenses, judgments, suits, actions, proceedings, costs, disbursements and/or expenses (including, without limitation attorneys' and experts' fees and disbursements) of any kind whatsoever which may at any time be imposed upon, incurred by or asserted or awarded against client relating to, resulting from or arising out of (a) the breach of this agreement by this client, (b) the negligence of the client in handling, delivering or disclosing any hazardous substance, (c) the violation of the Client of any applicable law, (d) non-compliance by the Client with any environmental permit or (e) a material misrepresentation in disclosing the materials to be tested.

**Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance that is to be delivered to LAB will be packaged, labeled, transported, and delivered properly and in accordance with applicable laws.

**Sample Handling.** Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss or of damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility for the action or inaction of any carrier shipping or delivering any sample to or from LAB premises.
Client authorizes LAB to proceed with the analysis of samples as received by the laboratory, recognizing that any samples not in compliance with all current DOH-ELAP-NELAP requirements for containers, preservation or holding time will be noted as such on th final report.
Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis unless modified by applicable state or federal laws. Client will be required to give the LAB written instructions concerning disposal of these samples.
LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample, which, in the sole judgment of LAB (a) is of unsuitable volume, (b) may be or become unsuitable for or may pose a risk in handling, transport, or processing for any health, safety, environmental or other reason whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) if the condition or sample date make the sample unsuitable for analysis.

**Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort including negligence.

**Assignment.** LAB may assign its performance obligations under this contract to other parties, as it deems necessary. LAB shall disclose to Client any assignee (subcontractor) by ELAP ID # on the submitted final report.

**Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB, which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not limited to, acts of God, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

**Law.** This contract shall be continued under the laws of the State of New York without regard to its conflicts of laws provision.

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

1 of 1

PARADIGM

# CHAIN OF CUSTODY

| REPORT TO: | | INVOICE TO: | | |
|---|---|---|---|---|
| CLIENT: | LaBella Associates | CLIENT: | | LAB PROJECT ID: 210255 |
| ADDRESS: | 300 State Street suite 200 | ADDRESS: | | Quotation #: |
| CITY: | Rochester STATE: NY ZIP: 14614 | CITY: | STATE: ZIP: | Email: |
| PHONE: | 585-454-6100 | PHONE: | | |
| ATTN: | Dan Noll | ATTN: | | |

**PROJECT REFERENCE**

**Matrix Codes:**
**AQ** - Aqueous Liquid; **NQ** - Non-Aqueous Liquid; **WA** - Water; **WG** - Groundwater; **DW** - Drinking Water; **WW** - Wastewater; **SO** - Soil; **SL** - Sludge; **SD** - Solid; **PT** - Paint; **WP** - Wipe; **CK** - Caulk; **OL** - Oil; **AR** - Air

**REQUESTED ANALYSIS**

| DATE COLLECTED | TIME COLLECTED | COMPOSITE | GRAB | SAMPLE IDENTIFIER | MATRIX CODES | NUMBER OF CONTAINERS | Br | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| 1/15/2021 | 0715 | | X | LAB-SBW-15 | GW | 1 | X | | 01 |
| 1/15/2021 | 0720 | | X | LAB-SBW-16 | | 1 | X | | 02 |
| 1/18/2021 | 0800 | | X | LAB-SBW-15 | | 1 | X | | 03 |
| 1/18/2021 | 0810 | | X | LAB-SBW-16 | | 1 | X | | 04 |
| | | | | | per Hilty on 1/18/21 | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | 8°C 1/18/2021 1549 | |

| Turnaround Time | | Report Supplements | | | |
|---|---|---|---|---|---|
| Availability contingent upon lab approval; additional fees may apply. | | | | | |
| Standard 5 day | ☐ | None Required | ☐ | None Required | ☐ |
| 10 day | ☐ | Batch QC | ☐ | Basic EDD | ☐ |
| Rush 3 day | ☐ | Category A | ☐ | NYSDEC EDD | ☐ |
| Rush 2 day | ☒ | Category B | ☐ | | |
| Rush 1 day | ☐ | | | | |
| Date Needed _____ please indicate date needed: | | Other ☐ please indicate package needed: | | Other EDD ☐ please indicate EDD needed: | |

| | | |
|---|---|---|
| Katherine Mucra | 1/18/2021 0830 | Total Cost: |
| Sampled By | Date/Time | |
| Relinquished By | 1/18/2021 1548 | |
| Received By | 1/18/2020 548 | P.I.F. |
| Received @ Lab By | 1/18/2021 1550 | |

**By signing this form, client agrees to Paradigm Terms and Conditions (reverse).**



See additional page for sample conditions.

PARADIGM

# Chain of Custody Supplement

**Client:** Labella **Completed by:** MKlyKal

**Lab Project ID:** 210255 **Date:** 1/18/21

## Sample Condition Requirements

Per NELAC/ELAP 210/241/242/243/244

| Condition | *NELAC compliance with the sample condition requirements upon receipt* Yes | No | N/A |
|---|---|---|---|
| **Container Type** | X | | |
| Comments | | | |
| *Transferred to method-compliant container* | | | X |
| **Headspace (<1 mL)** | | | X |
| Comments | | | |
| **Preservation** | | | X |
| Comments | | | |
| **Chlorine Absent (<0.10 ppm per test strip)** | | | X |
| Comments | | | |
| **Holding Time** | X | | |
| Comments | | | |
| **Temperature** | | X | |
| Comments | 8°C | | |
| **Compliant Sample Quantity/Type** | X | | |
| Comments | | | |

179 Lake Avenue, Rochester, NY 14608 Office (585) 647-2530 Fax (585) 647-3311

L 2102725 1 of 1

11148

# CHAIN OF CUSTODY

| REPORT TO: | | INVOICE TO: | | | |
|---|---|---|---|---|---|
| COMPANY: | Paradigm Environmental | COMPANY: | Same | LAB PROJECT #: | CLIENT PROJECT #: |
| ADDRESS: | 179 Lake Avenue | ADDRESS: | | | |
| CITY: Rochester STATE: NY ZIP: 14608 | | CITY: STATE: ZIP: | | TURNAROUND TIME: (WORKING DAYS) Rush STD OTHER | |
| PHONE: FAX: | | PHONE: FAX: | | ☐1 ☐2 ☐3 ☐5 | |
| PROJECT NAME/SITE NAME: | | ATTN: Reporting | ATTN: Accounts Payable | | |
| | | COMMENTS: Please email results to reporting@paradigmenv.com | | Date Due: 1/20/21 | |

## REQUESTED ANALYSIS

| | DATE | TIME | COMPOSITE | GRAB | SAMPLE LOCATION/FIELD ID | MATRIX | NUMBER OF CONTAINERS | Bromide | REMARKS | PARADIGM LAB SAMPLE NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1/15/21 | 0715 | | | 210255-01 | GW | 1 | X | | |
| 2 | ↓ | 0720 | | | 02 | GW | 1 | X | | |
| 3 | 1/18/21 | 0800 | | | 03 | GW | 1 | X | | |
| 4 | 1/18/21 | 0810 | | | 04 | GW | 1 | X | reporting limit 0.1 mg/L | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**LAB USE ONLY BELOW THIS LINE**

Sample Condition: Per NELAC/ELAP 210/241/242/243/244

| Receipt Parameter | NELAC Compliance | |
|---|---|---|
| Container Type: | Y ☐ | N ☐ |
| Comments: | | |
| Preservation: | Y ☐ | N ☐ |
| Comments: | | |
| Holding Time: | Y ☐ | N ☐ |
| Comments: | | |
| Temperature: | Y ☐ | N ☐ |
| Comments: | | |

Client

Sampled By: Molly Vail Date/Time: 1/18/21 1600

Relinquished By: BAC Date/Time: 1/18/21 1700

Received By: Date/Time: 1/19/21 0040

Received @ Lab By: Date/Time:

Total Cost:

P.I.F.

# APPENDIX 2

XDD Treatability Study Report

February 2, 2021 *Via e-Mail* (dnoll@LaBellaPC.com)

Mr. Dan Noll
LaBella Associates
300 State Street, Suite 201
Rochester, NY 14614

**RE: ZVI Bench-Scale Test Results**
**Former Emerson Street Landfill, Rochester, New York**
**XDD Project No. 20029**

Dear Mr. Noll,

**XDD ENVIRONMENTAL, LLC** (XDD) is pleased to provide LaBella Associates (LaBella) with the results of the bench-scale testing services in support of remedial activities for the Former Emerson Street Landfill (FESL), located in Rochester, New York (Site). The bench-scale testing focused on the evaluation of Zero Valent Iron (ZVI) to primarily address the chlorinated volatile organic compounds (CVOCs) in groundwater at the Site. The bench-scale testing was performed in accordance with the scope of work described in XDD's *"Proposed Scope of Work for Bench Scale Testing Services"* dated August 11, 2020 and revised August 15, 2020, with modifications as noted in this report.

If you have any questions regarding the information presented in this report, please do not hesitate to call me at 603.778.1100.

Sincerely,
**XDD Environmental**

Laurel Crawford, Project Manager

cc: Richard H. Frappa (GEI Consultants)
Michael Marley (XDD)

# ZVI BENCH-SCALE TEST RESULTS

Former Emerson Street Landfill (FESL)
Rochester, New York

*Prepared For:*

LABELLA ASSOCIATES
300 STATE STREET, SUITE 201
ROCHESTER, NEW YORK 14614

*Prepared By:*


22 MARIN WAY
STRATHAM, NH 03885
TEL: (603) 778-1100
FAX: (603) 778-2121

February 2, 2021

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## 1.0 INTRODUCTION

XDD Environmental, LLC (XDD) was retained by LaBella Associates (LaBella) to perform bench-scale testing using zero-valent iron (ZVI) to address primarily chlorinated volatile organic compounds (CVOCs) in groundwater downgradient of the source area at the Former Emerson Street Landfill (FESL), Rochester, New York (Site).

The Site consists of a former landfill impacted with volatile organic compounds (VOCs) in bedrock and overburden and in bedrock groundwater. Based on discussions with LaBella and their technical consultants from GEI Consultants, Inc. (GEI), the proposed remediation strategy includes installation of a permeable reactive barrier (PRB) consisting of ZVI to treat the CVOCs migrating in groundwater within bedrock fractures downgradient of the Site source area.

Pilot testing was previously conducted at the Site in two areas, a total of approximately 28,000 pounds (lbs.) of micro scale ZVI was injected into the two areas using two implementation techniques. The ZVI was applied into a blasted bedrock trench in the western pilot test area, and pneumatically injected in the eastern pilot test area of the Site.

The CVOCs that are considered as contaminants of concern (COCs) for the Site include 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), tetrachloroethene (PCE), 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), and vinyl chloride. The goal of the bench-scale testing was to evaluate the effectiveness of ZVI in reducing the concentrations of CVOCs amenable to treatment by ZVI, which include the COCs listed above except for 1,1-DCA. 1,1-DCA is a constituent poorly degraded by ZVI and understood to be naturally biodegraded in Site groundwater. As such, monitored natural attenuation (MNA) is a component of the remedy and is anticipated to address 1,1-DCA. For the remainder of this document, any reference to COCs will include those that are targeted for treatment in the bench-scale testing, which include all Site COCs except for 1,1-DCA.

The bench-scale testing evaluated various ZVI amendments in a series of batch and column tests. The general scope of work (SOW) included the following:

1. ZVI Kinetics Batch Test. The kinetics test was conducted with Site groundwater in contact with crushed bedrock in a series of batch reactors. The goals of the kinetics test were to:
    a. determine the optimal ZVI amendment(s) and dose required to treat the COCs in groundwater in the presence of bedrock, with a goal of achieving a minimum 80

percent (%) reduction in total COCs concentrations compared to the source area COCs concentrations.

b. The data would also serve to provide some insight into the treatment zone length needed (and column length needed for the column test), in the bedrock, perpendicular to groundwater flow, based on the determined reaction kinetics.

   The batch reactor design requires the use of a larger groundwater to bedrock / ZVI weight ratio than an in-situ application (and the column testing) to permit adequate groundwater sample volumes for the required analytical analyses. As such, there is a greater mass of contaminants in the batch reactor than would be present within a pore volume of impacted groundwater entering a treatment trench. Therefore, the measured kinetics in the batch test reactors may be slower to reach an 80% reduction in COCs than may occur in the column test and in the field. The batch test results however provide the relative kinetics, which is refined in the column testing.

2. ZVI Column Test. Column testing was conducted with Site groundwater in contact with crushed bedrock using the ZVI product(s) and dose that demonstrated the best results from the kinetics test. The objectives from this test were to:
   a. confirm the ZVI product(s) and dose is successful in a column test, which oftentimes more closely resembles Site conditions (i.e., groundwater flow rate and groundwater to bedrock / ZVI weight ratio).
   b. determine if the change in groundwater geochemistry (i.e., pH, ORP) due to the ZVI could result in undesirable changes in dissolved metals concentrations.
   c. Provide a more accurate evaluation of the treatment zone length needed in the bedrock, perpendicular to groundwater flow.

### 1.1 MODIFICATIONS TO ORIGINALLY PROPOSED SCOPE OF WORK

Following discussions with LaBella and GEI, modifications to the original proposed SOW included:

- All certified laboratory analyses were conducted by Alpha Analytical located in Westborough, Massachusetts instead of the originally proposed laboratory, Absolute Resource Associates located in Portsmouth, New Hampshire.
- Ferox Plus Emulsified ZVI (eZVI) from Hepure was used instead of sulfidated ZVI (S-MicroZVI® by Regenesis).
- Kinetics Testing

  - The kinetics test was conducted in the presence of bedrock to aid in the distribution of the ZVI in the batch reactors. The batch testing was originally proposed to be conducted in the absence of bedrock.
  - The number and frequency of the sampling points for the kinetics test varied depending on interim results. In addition, analyses were not conducted at the final time point for select test conditions (refer to Section 2.3.1).
- Column Testing
  - Two ZVI products were evaluated in the column tests (one treatment condition was originally proposed).
  - In-house gas chromatograph (GC) analyses of VOCs were conducted at the beginning of the column study to obtain real time data to assess when steady state / equilibrium conditions in groundwater in the columns were reached (i.e., after any partitioning between groundwater and bedrock, potential sorption to column materials, and volatile losses had stabilized) (refer to Section 2.4.1).
  - Three sampling intervals were conducted in the column testing (one was originally proposed) (refer to Section 2.4.1).

## 2.0 EXPERIMENTAL PROCEDURES

### 2.1 SAMPLE HANDLING

The groundwater and bedrock used in the bench-scale testing was collected by LaBella and shipped to XDD. The groundwater was collected from monitoring well location SBW-07 on September 28, 2020. The samples collected for the bench-scale testing were stored at approximately 4 degrees Celsius ($^{o}$C) until test setup.

Prior to setting up the tests, a baseline groundwater sample was submitted to Alpha Analytical for VOCs analysis using United States Environmental Protection Agency (EPA) Method 8260. Baseline analytical data showed that chloroethane concentrations in groundwater were lower than typically measured at the Site. Although chloroethane is not considered a COC and has not been shown to be effectively degraded by ZVI, XDD spiked the groundwater used in the batch testing at LaBella's request. The groundwater was spiked with chloroethane to target a final groundwater concentration of approximately 100 micrograms per liter (µg/L) chloroethane. The batch tests confirmed that chloroethane was not degraded by ZVI and as a result, the groundwater used in the subsequent column testing was not spiked with chloroethane after consultation with LaBella and GEI.

Upon receipt at XDD's laboratory, the bedrock was broken up into pieces resembling a fractured bedrock structure. The bedrock pieces used in the batch and column testing were sieved to sizes ranging from 1 millimeter (mm) to 4.8 mm (No. 18 and No. 4 sieve sizes), per direction from LaBella and GEI.

Experimental controls consisted of groundwater and bedrock in the absence of ZVI that were carried through the same procedures as the treated test conditions.

Geochemical parameters, such as pH and oxidation reduction potential (ORP), were measured using an ion selective probe in XDD's in-house laboratory.

### 2.2 ZVI AMENDMENTS

The following ZVI products that were used in the bench-scale testing were obtained from Hepure:

1. Ferox Flow: 95% ZVI; powder that provides high reactivity and long treatment life; -100/+325 Mesh ZVI (125-micron average particle size)
2. Ferox Target: 95% ZVI; powder that provides high reactivity with a shorter treatment life than Ferox Flow; -325 Mesh ZVI (44-micron average particle size)
3. Ferox Plus Emulsified ZVI (eZVI): 10 - 40% ZVI; nano/micro scale; supplied as a surfactant-stabilized, oil-in-water, injectable slurry; consists of Ferox ZVI with emulsified vegetable oil (EVO), vitamins, and nutrients; designed to stimulate chemical reduction and anaerobic biological reductive pathways.

All three ZVI products were used in the kinetics testing at two dosages for each product. Based on recommendations from the vendor and after consultation with LaBella and GEI, each product was tested at dosages of 1% and 5% (by total weight of groundwater and bedrock in each batch reactor). Based on the kinetics batch test results, the column testing was conducted using one treatment column with 5% Ferox Flow and a second treatment column with 5% Ferox Target (by total weight of groundwater [saturated pore volume] and bedrock in each column).

### 2.3 ZVI KINETICS BATCH TEST

The kinetics tests were conducted in a series of batch reactors (160-milliliter [mL] borosilicate-glass serum bottles) at 15 °C to simulate field groundwater temperatures. Refer to **Appendix A** for a photograph of the batch reactors. The bottles were first purged with argon to create an anaerobic environment followed by the addition of 25 grams (g) of crushed bedrock and 120 mL of groundwater. Depending on the test condition, ZVI amendments were added as necessary (refer to **Table 1**). The control reactors were set up in the same manner and carried

through same procedures as the amended test conditions but did not contain ZVI. Each reactor was sealed with a Teflon-lined, rubber septum. For each test condition, replicate reactors were set up and sacrificed for each sampling point as shown on **Table 1**. The control reactors were tested in duplicate at each time point for the determination of analytical precision.

### 2.3.1 TESTING DURATION AND ANALYSES

The sampling points and analyses for the kinetics test are shown on **Table 1**. Interim results were used to refine the analytical time points and test duration, with the goal of having sufficient confidence in the data for projecting meeting the groundwater remedial goals. The kinetics test for the low dose ZVI (1%) was conducted over a period of 13 days and a total of 9 time points (including Day 0). Based on the Day 13 results, the low dose testing was eliminated from further testing. For the high ZVI dose (5%) test conditions, an additional time point at Day 25 was conducted for a total of 10 time points including Day 0.

pH, ORP, and VOCs were measured for all test conditions at each time point. In addition, alkalinity, sulfate, and dissolved gases (methane, ethane, and ethene) were analyzed in the control at Day 0, and the control and high ZVI dose test conditions at the final time point (Day 25). All analyses were conducted by Alpha Analytical with the exception of pH and ORP, which were measured in XDD's laboratory.

## 2.4 ZVI COLUMN TEST

The column test was conducted using the ZVI product(s) and dose that demonstrated the best results in the kinetics test. After consultation with LaBella and GEI, two treatment columns were set up using Ferox Flow and Ferox Target at 5% (by total weight of groundwater [saturated pore volume] and crushed bedrock) for each column. The control column consisted of groundwater and crushed bedrock only. The column testing was conducted at 15 °C to simulate field groundwater temperatures.

The column testing was conducted using 1-inch ID (nominal) stainless steel (SS 304) columns with sanitary clamp fittings. Based on the kinetics test results, the column lengths were 4 feet (maximum proposed length for both practical implementation at the bench scale and to allow multiples of the 4-foot length to be tested, if needed). The columns were constructed with SS 304 reducers fitted to both ends of the straight column section. Gaskets between the straight column section and reducers consisted of Buna-N[1] fitted with #60 Mesh SS screens to retain the crushed bedrock. All fittings and materials used in the column setup consisted of suitably inert

[1] Buna-N is nitrile rubber which is generally considered to be compatible for VOCs sampling operations.

materials compatible with VOCs sampling/handling. Refer to **Appendix A** for photographs of the columns and associated components.

The control column was set up prior to the ZVI columns to determine the quantity of ZVI to add to each ZVI column. The quantity of soil and groundwater needed to fill the control column was used to calculate the amount of ZVI needed for the ZVI columns, as the 5% dosing is based on the total weight of groundwater [saturated pore volume] and crushed bedrock. The control column was filled with crushed bedrock (total of approximately 740 g) and periodically compacted to eliminate large voids. The column was then purged with nitrogen in an upward flow direction to eliminate air. The initial purge of nitrogen would also establish an anaerobic environment similar to Site conditions (i.e., low ORP) to prevent passivation of the ZVI in the ZVI columns. Groundwater was introduced to the bottom of the control column in an upward flow direction using an InfusionONE Syringe Pump. Once the groundwater exited the top of the column, the pore volume (approximately 190 mL) was recorded and used in the calculations of ZVI to be added to the ZVI columns. The control column was sealed at both ends to prevent drying while the ZVI columns were constructed.

The ZVI columns were constructed in the same manner as the control column but received the ZVI amendments at the calculated dose. There was initial concern that the ZVI would drop to the bottom of the column due to density and the smaller ZVI particle size than the bedrock pieces. Therefore, the bedrock and ZVI was emplaced in 6-inch sections separated by a polypropylene, 5-micron filter. In addition, on both ends of each column, a filter was placed between the SS mesh screens and straight column section to retain any ZVI / fine bedrock particles. The control column was similarly constructed with filters placed every 6 inches and at either end of the column.

The total quantity of ZVI and bedrock needed for each ZVI column was divided into 8 amounts, which was equally distributed over each 6-inch interval throughout the column. Similar to the control column, the ZVI columns were initially purged with nitrogen and an initial pore volume of groundwater was introduced to saturate the columns.

An agreed upon groundwater flow rate of 2 feet per day (ft/day) was simulated during the column testing using a set flow rate on the syringe pumps. At the inlet of each column, a glass, gas-tight syringe was filled with groundwater and inserted into the syringe pump. Similarly, glass, gas-tight syringes were used to collect the effluent groundwater at the outlet of each column (**Appendix A**).

A second pore volume was simultaneously introduced to all three columns. A fluorescent tracer (Fluorescein) was added to the influent groundwater for the control column as a qualitative assessment of whether the flow rate set on the pump equated to the target 2 ft/day velocity for the columns. Fluorescein is not expected to impact the physical or chemical characteristics of the column media. The tracer was observed at the effluent of the control column at the expected 2 ft/day flow rate and therefore, no adjustments to the syringe pump flow rate were made. All subsequent groundwater pore volumes run through the control column did not contain Fluorescein.

### 2.4.1 TESTING DURATION AND ANALYSES

In-house GC analyses of COCs were conducted at the beginning of the column study to obtain real time data to assess when steady state / equilibrium conditions in groundwater in the columns were reached (i.e., after any partitioning between groundwater and bedrock, potential sorption to column materials, and volatile losses had stabilized). The COCs were measured using a headspace VOCs method following EPA 5021A[2]. Analyses were conducted by filling voa vials with groundwater, leaving 5 cubic centimeters (cc) of headspace. Standards were prepared in the same manner so that the headspace and water volumes were the same as the samples. Standards were prepared using dilutions of a standard mixture containing the treatability study COCs. Analyses were conducted by removing 100-microliter (µl) samples of headspace by syringe through the septa and injecting directly into a HP5890 GC equipped with a flame ionization detector (FID). ChemStation software was used to calculate response factors and quantitate results. The compound concentrations in the samples were quantified by comparing peak areas to standard calibration curves. Compounds were reported as concentrations that would be present if each compound were completely in the aqueous phase.

The in-house screening level analyses were conducted on the control column effluent at different time points. If the concentrations were relatively consistent between the sampling time points, it was considered that a steady-state condition in the columns had been reached. Once equilibrium conditions had been reached, groundwater continued to be pumped through the columns for eventual collection of the effluents to determine treatment effectiveness.

Treatment effectiveness (i.e., a minimum 80% reduction in total COCs concentrations in the ZVI columns compared to the control) was determined by evaluating the VOCs data from Alpha Analytical. If results from the 4-foot treatment columns indicated inadequate reductions in

[2] Although EPA Method 5021A is a standard method for the analysis of VOCs, XDD is not a certified laboratory and the results are considered “screening” level.

COCs, an 8-foot treatment scenario would be conducted by injecting the 4-foot column effluents back into the inlet of each column. The treatment simulations and analyses that were conducted are shown on **Table 2**. All analyses were conducted by Alpha Analytical with the exception of pH and ORP, which were measured in XDD's laboratory.

## 3.0 RESULTS AND DISCUSSION

The results of the ZVI kinetics batch test and ZVI column test are presented and discussed in the following sections.

### 3.1 ZVI KINETICS BATCH TEST

The kinetics test analytical VOCs results are shown on **Table 3**, pH and ORP data are shown on **Table 4**, and the dissolved gases and wet chemistry (i.e., alkalinity, sulfate, pH, and ORP) results are shown on **Table 5.** Laboratory reports are attached in **Appendix B**.

#### 3.1.1 VOCS RESULTS

The VOCs results for the ZVI kinetics batch test (**Table 3**) show the COCs for the treatability study in bold font at the top of the table and are summed at the bottom. Any remaining detected VOCs are shown below the COCs. The VOCs results are presented by test condition for each time point. The analytical results are discussed below.

- **Baseline and Controls.** Baseline samples were submitted for VOCs analysis upon receiving groundwater from the Site. Prior to setting up the batch reactors, the groundwater was spiked with chloroethane to target a final groundwater concentration of approximately 100 µg/L chloroethane (refer to Section 2.1). The controls are carried through the same procedures and duration of the test as the reactors with ZVI.

  When comparing the control results to the baseline results, it is evident that there was a notable difference in COC concentrations between the control samples and the baseline samples. This difference between the baseline data and control samples is not uncommon and is likely attributed to:
  - the groundwater used in the controls and ZVI batch reactors was intentionally sampled from a different container than the baseline groundwater. Upon removing groundwater samples from the container for baseline analyses, headspace in the container was created. There was concern for volatilization of VOCs in the container headspace until baseline data was received and the batch reactors could be constructed. Therefore, the groundwater used in the controls and ZVI batch reactors was obtained from a different, full container (i.e., minimal

headspace) that had not yet been opened. As such, the variability between the baseline and control data can be due to variability between sample containers during collection of groundwater via low-flow sampling, and/or volatilization in the container headspace.

- partitioning effects between the bedrock and groundwater in the control reactors (i.e., desorption of COCs in bedrock into the aqueous phase and/or sorption of COCs from groundwater onto bedrock). The baseline groundwater samples were submitted to the lab at the start of the test (i.e., no contact time with bedrock), whereas the controls were submitted to the lab after the bedrock and groundwater had been in contact with one another during the testing.
- volatilization of COCs in the controls upon preparation and throughout the duration of the testing potentially contribute to the discrepancy between the baseline and control samples.

The effects from potential partitioning or volatilization would be expected to be minimal in the controls from the earlier time points (e.g., Day 0, Day 0.5) compared to the controls from later time points. As shown on **Table 3**, there was only a slight decrease in groundwater concentrations in the controls over time.

The controls for all time points were setup and analyzed in duplicate for VOCs. The data show acceptable precisions between duplicate pairs, with relative percent differences of 15% or less.

Since the controls are carried through the same conditions and duration of the testing as the ZVI reactors, the analytical results discussed below for the ZVI treatment conditions are compared to the corresponding controls for each time point. The percent reductions shown on **Table 3** were calculated using the average of the duplicate controls specific to each time point.

- **Ferox Flow.** The percent reductions in groundwater COC concentrations for the Ferox Flow test conditions generally increased with increasing contact time between the groundwater and ZVI / bedrock. This increasing trend in total COCs percent reductions over the duration of the testing is illustrated on **Figure 1**. As expected, the 5% Ferox Flow treatment outperformed the 1% Ferox Flow treatment.

  By Day 13 of the test duration, the treatment with 5% Ferox Flow was approaching the treatment goal of 80% reduction in COCs, at 69%. However, the treatment with 1% Ferox Flow resulted in only a 24% reduction in total COCs by Day 13. Therefore, the

treatment using 1% Ferox Flow was eliminated from further testing. The 5% Ferox Flow treatment continued and by Day 25, the reduction in total COCs in groundwater was 88%.

- **Ferox Target.** Similar trends in percent reductions in COCs were observed for the Ferox Target test conditions compared to the Ferox Flow test conditions. The percent reductions in COC concentrations in the Ferox Target test conditions generally increased over the duration of the testing and the 5% Ferox Target treatment outperformed the 1% Ferox Target treatment (**Figure 1**). Treatment with Ferox Target at the 1% and 5% doses resulted in greater percent reductions in COCs compared to the 1% and 5% Ferox Flow test conditions.

  By Day 13 of the test duration, the treatment with 5% Ferox Target exceeded the remedial goals, with an 86% reduction in total COCs in groundwater. In comparison, the 1% Ferox Target only resulted in a 45% reduction in total COCs by Day 13. As with the Ferox Flow testing, the treatment using 1% Ferox Target was eliminated from further testing. The 5% Ferox Target treatment resulted in a 99% reduction in total COCs in groundwater by Day 25 of the test.

- **eZVI.** The percent reductions in COC concentrations in the eZVI test conditions showed more variability, and in some cases decreased, over the duration of the testing compared to Ferox Flow and Ferox Target. In particular, the eZVI treatment at the 5% dose generally showed a decreasing trend in COC percent reductions over time, although overall, it outperformed the 1% eZVI treatment. XDD has observed this in previous bench-scale tests in which an oil-based amendment was tested (e.g., Lactoil, EOS PRO). Oil-based amendments such as eZVI can initially cause the contaminants to sorb into the oils, but eventually they are released into the aqueous phase for treatment resulting in greater reductions in the COCs. This was not observed within the test duration in this bench-scale test, indicating that eZVI may not be a practicable treatment option for the Site due to the time (and therefore PRB width) that would be required to reach treatment goals.

### 3.1.2 pH AND ORP RESULTS

The pH and ORP results for the ZVI kinetics batch test are shown on **Table 4**. The pH in the Ferox Flow and Ferox Target test conditions gradually increased over the duration of the test. This was expected, as it is typical for the pH to be alkaline in a ZVI application. The increase in pH did not appear to hinder the ZVI treatment of the COCs. The pH in the eZVI batch reactors remained relatively constant at slightly above neutral pH ranges. As expected, the pH in the 5%

ZVI test conditions for all three ZVI products were slightly higher compared to the 1% ZVI test conditions.

The ranges in ORP for all ZVI test conditions were favorably negative. A significant reduction in ORP occurred within the first 12 hours of the test (refer to the Day 0.5 ORP values on **Table 4**).

### 3.1.3 Dissolved Gases and Wet Chemistry Results

Dissolved gases and wet chemistry (i.e., alkalinity and sulfate) results at Day 0 and Day 25 are shown on **Table 5.** pH and ORP values are also shown on the table. The dissolved gases in the control decreased from Day 0 to Day 25, likely due to volatilization. Therefore, the results for the ZVI treated reactors are compared to the controls at the Day 25 time point. As would be expected, ZVI degradation end products (ethene and ethane) increased in the ZVI test conditions by Day 25 compared to the control.

Increases in methane and decreases in sulfate were measured in all three ZVI test conditions compared to the control. This is commonly observed in ZVI systems due to the favorable conditions (i.e., anaerobic environment, low ORP) created, and utilization of ZVI as an electron donor, for methanogenic and sulfate-reducing bacteria.

Alkalinity was fairly consistent between the Day 0 and Day 25 controls and its relatively high values are likely due to the dolomitic ($CaMg(CO_3)_2$) bedrock that the groundwater is in contact with at the Site. ZVI systems often result in an increase in alkalinity, which can aid in neutralizing acid formation in water. However, the increase in alkalinity that is commonly measured in ZVI systems was not observed by Day 25 in the ZVI treated reactors. Alkalinity remained relatively unchanged in the 5% eZVI test conditions compared to the control at Day 25. In the 5% Ferox Flow and Ferox Target test conditions, alkalinity decreased compared to the control at Day 25. This may be indicative of the precipitation of carbonate minerals.

## 3.2 ZVI Column Test

Based on the ZVI kinetics batch test results and after consultation with LaBella and GEI, two ZVI columns were set up using Ferox Flow and Ferox Target at 5% (by total weight of groundwater [saturated pore volume] and crushed bedrock) for each column. Three column testing scenarios were conducted: an initial 4-foot treatment zone (i.e., column length / PRB width) simulation, an 8-foot treatment zone simulation, and a confirmation run of the 4-foot treatment zone. Upon request by LaBella and GEI, the 8-foot ZVI treatment zone was simulated to determine if it would result in a significant improvement in COC reductions compared to the 4-foot treatment scenario. Based on the results of the first two treatment scenarios (4-foot

treatment zone and 8-foot treatment zone), the second, confirmation run of the 4-foot treatment scenario was conducted.

The column test analytical VOCs results for baseline groundwater and the three simulated runs for the columns are shown on **Table 6.** All other analyses (metals, dissolved gases, and wet chemistry [i.e., alkalinity, sulfate, pH, and ORP]) were conducted on the baseline groundwater and the second, confirmation run of the 4-foot treatment scenario, with the results presented on **Table 7.** Laboratory reports are attached in **Appendix B**.

### 3.2.1 VOCs Results

Prior to starting the column test simulations, in-house GC analyses of COCs were conducted at the beginning of the column study to obtain real time data to assess when steady state / equilibrium conditions in groundwater in the columns were reached (i.e., after any partitioning between groundwater and bedrock, potential sorption to column materials, and volatile losses had stabilized) (refer to Section 2.4.1). The in-house screening level analyses were conducted on the control column effluent at three consecutive sampling time points. The results showed relatively consistent concentrations between the sampling time points. Therefore, it was considered that steady-state conditions were adequately achieved and the first 4-foot treatment scenario was initiated.

The VOCs results (Alpha Analytical) for the three column testing scenarios (4-foot treatment zone, 8-foot treatment zone, and the confirmation 4-foot treatment zone) are shown on **Table 6**. The treatability study COCs are shown in bold font at the top of the table and are summed at the bottom. Any remaining detected VOCs are shown below the COCs. The analytical results are discussed below.

- **Baseline and Controls.** Baseline groundwater samples were re-submitted for VOCs analysis to confirm that the levels of COCs were still significant enough to evaluate ZVI treatment in the column testing, as the groundwater was collected three months prior to the column testing. Results confirmed sufficient COC concentrations to proceed with the column testing.

  Similar to the ZVI kinetics batch test, there are differences in COC concentrations between the control samples and the baseline samples (refer to Section 3.1.1). Therefore, the results from the ZVI columns are compared to the control column for each treatment scenario.

- **Ferox Flow.** The 5% Ferox Flow treatment did not result in meeting the treatment goal of 80% reduction in groundwater COCs for any of the treatment scenarios. The initial, 4-foot treatment simulation resulted in percent reductions in total COCs of 64% compared to the control. The 8-foot treatment scenario resulted in only a slight improvement, with a 66% reduction in COCs compared to the corresponding control. The second, confirmation run of the 4-foot treatment scenario resulted in a 73% reduction in total COCs in groundwater.

- **Ferox Target.** Similar to the kinetics batch test results, the Ferox Target column treatment outperformed the Ferox Flow column treatment. The 4-foot column with 5% Ferox Target exceeded the remedial goal with a 91% reduction in total COCs compared to the control. Likewise, the 8-foot treatment simulation and second, confirmation run of the 4-foot treatment simulation resulted in 96% and 98% reductions in groundwater COCs, respectively.

### 3.2.2 pH AND ORP RESULTS

The pH and ORP results for the ZVI column test are shown on **Table 7**. Consistent with the kinetics batch test measurements, the pH measurements in the Ferox Flow and Ferox Target column effluents were higher compared to the control. Likewise, the ORP was reduced in the ZVI columns compared to the control.

### 3.2.3 DISSOLVED GASES AND WET CHEMISTRY RESULTS

Similar trends in dissolved gases and wet chemistry results were measured in the ZVI column test compared to the ZVI kinetics batch test. Dissolved gases (methane, ethane, and ethene) were elevated in the ZVI treatment column effluents compared to the control (**Table 7**). Alkalinity decreased and sulfate was only slightly reduced in the ZVI-treated column effluents compared to the control.

### 3.2.4 METALS RESULTS

The dissolved metals results for the ZVI column test are presented on **Table 7**. In a majority of cases, dissolved metals concentrations in groundwater decreased as a result of ZVI treatment compared to the control. ZVI treatment often results in reductions in dissolved metals concentrations due to precipitation of metal sulfides and / or adsorption to ZVI surfaces. The only metals that remained above New York State Department of Conservation (NYSDEC) Part 703 Groundwater Quality Standards (GQS) following ZVI treatment were magnesium and sodium, which were already present in Site groundwater at concentrations exceeding the standards.

## 4.0 CONCLUSIONS AND RECOMMENDATIONS

The ZVI bench-scale results for the tested conditions support the following conclusions and recommendations:

- The batch and column testing showed that, for the same dosing, Ferox Target ZVI outperformed the other two ZVI products, Ferox Flow and eZVI, with respect to reducing the COCs targeted for ZVI treatment in groundwater.
    - The 5% Ferox Target met the 80% reduction in groundwater COCs goal by Day 13 of the ZVI kinetics batch test and in all three column simulations tested. The 5% Ferox Flow achieved the 80% reduction goal by Day 25 in the batch testing but did not reach the treatment goal in any of the column tests. The 1% and 5% eZVI dosing did not meet the treatment goals in any of the batch test conditions.
- The following recommendations are provided:
    - If Ferox Target is selected, a loading of 5% would be recommended, by weight of groundwater and if applicable, any native bedrock particles or commercial sand it may be mixed with. It may be prudent to inject the ZVI with commercial sand and / or any bedrock particulates made available through trench blasting to help the ZVI adhere to solid surfaces and also prevent the sinking of ZVI due to its size and density. It is key that the ZVI be distributed relatively evenly throughout the PRB to meet the demonstrated treatment effectiveness of COCs in the columns.
    - A minimum of 4 feet for the PRB width based on a projected uniform groundwater flow velocity through the trench of up to 2 ft/day. If the actual groundwater velocity is higher in sections of the trench, a PRB wider than 4 feet and / or a higher dosing of ZVI might be required. However, these potential conditions were not tested.
- Potential disadvantages of Ferox Target:
    - Ferox Target has a higher cost compared to Ferox Flow on a pound per pound basis. Although the Ferox Flow met the treatment goals by the end of the batch testing, it took longer to reach the goals than the Ferox Target. In the column testing, an 80% reduction in COCs was not achieved with 5% Ferox Flow within a 4 or 8-foot treatment zone. Therefore, the dosage of Ferox Flow or the width of a Ferox Flow PRB that might be required to reach treatment goals would likely be higher (dosage) or the trench wider than for the Ferox Target trench; a cost-benefit analysis could evaluate which PRB may be more cost-effective for the Site. While the data from the column testing did not show the Ferox Flow meeting the 80% COCs reduction goal, the trend in higher COCs reduction with higher dosage achieved in the batch testing does suggest that a higher dose of Ferox Flow could reach the goal.

  - Ferox Target can have a relatively shorter longevity compared to Ferox Flow. The actual longevity of a PRB consisting of Ferox Target is site-specific and depends on many factors (i.e., groundwater geochemistry, level of COCs, and any potential for passivation of the ZVI). This would need to be tested in a bench-scale duration long enough (i.e., several months) to accurately extrapolate results. This could also be incorporated into a cost-benefit analysis.

- Other considerations:
  - The increased pH as a result of ZVI treatment did not appear to inhibit the treatment of COCs nor did it result in any undesirable increases in dissolved metals concentrations.
  - The trends in alkalinity and dissolved metals measured in the ZVI bench-scale testing may indicate the potential for precipitation of carbonates and/or metals, potentially causing a reduction in permeability of the ZVI PRB over time. Mineral precipitates were not observed in the ZVI batch reactors nor as a restriction in column groundwater flow during the bench testing. Mineral precipitation and PRB clogging are not expected to be significant in the short or mid-term of PRB operations, but monitoring of the hydraulics through the PRB, as an indicator of reduced permeability, could be used as a metric for rejuvenation of the PRB. There are potential methods for rejuvenating PRBs through chemical flushing, if needed.

# Tables

**Table 1**
**Bench Test Setup: ZVI Kinetics Batch Test**
Former Emerson Street Landfill
Rochester, New York

| ZVI Kinetics Batch Test | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Test Condition** | | **VOCs [2] pH and ORP [3]** | | | | | | | | | | **Akalinity, Sulfate, Dissolved Gases [2]** | |
| | | Time Points (days) | | | | | | | | | | Time Points (days) | |
| | | 0 | 0.5 | 1 | 2 | 3 | 4 | 5 | 8 | 13 | 25 | 0 | 25 |
| **Baseline groundwater [1]** | | ✓ | | | | | | | | | | | |
| **Baseline groundwater duplicate [1]** | | ✓ | | | | | | | | | | | |
| **Control - groundwater and crushed bedrock (no ZVI)** | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Control duplicate** | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| **Hepure Ferox Flow** | **1% ZVI** | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| | **5% ZVI** | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| **Hepure Ferox Target** | **1% ZVI** | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| | **5% ZVI** | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| **Hepure eZVI** | **1% ZVI** | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| | **5% ZVI** | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |

**Notes:**
ZVI = zero valent iron
VOCs = volatile organic compounds
[1] Baseline sample was submitted prior to test setup to confirm groundwater was impacted with typical levels of VOCs detected at the site.
[2] Analyses were conducted by Alpha Analytical located in Westborough, MA.
[3] pH and ORP measurements were conducted in XDD's laboratory using an Orion 8103BN micro-electrode.
[4] ZVI dosing based on weight percent ZVI / total weight of groundwater and crushed bedrock.
[5] The kinetics test was conducted using 120 mL site groundwater and 25 g of crushed bedrock in batch reactors.

**Table 2**
**Bench Test Setup: ZVI Column Test**
Former Emerson Street Landfill
Rochester, New York

| ZVI Column Test | | | | | |
|---|---|---|---|---|---|
| **Test Condition** | | **VOCs [2]** | | | **VOCs, Alkalinity, Sulfate, Dissolved Gases, and Dissolved Metals [2] pH and ORP [3]** |
| | | Sampling Points / Treatment Scenario | | | Sampling Points / Treatment Scenario |
| | | Column Influent | 4-Foot Treatment Effluent | 8-Foot Treatment Effluent | 4-Foot Treatment Effluent: Second / Confirmation Run |
| **Baseline groundwater [1]** | | ✓ | | | ✓ |
| **Baseline groundwater duplicate [1]** | | ✓ | | | |
| **Control - groundwater and crushed bedrock (no ZVI)** | | | ✓ | ✓ | ✓ |
| **Hepure Ferox Flow** | **5% ZVI** | | ✓ | ✓ | ✓ |
| **Hepure Ferox Target** | **5% ZVI** | | ✓ | ✓ | ✓ |

**Notes:**
ZVI = zero valent iron
VOCs = volatile organic compounds
[1] Baseline sample was submitted prior to test setup to confirm groundwater was impacted with typical levels of VOCs detected at the site.
[2] Analyses were conducted by Alpha Analytical located in Westborough, MA.
[3] pH and ORP measurements were conducted in XDD's laboratory using an Orion 8103BN micro-electrode.
[4] ZVI dosing based on weight percent ZVI / total weight of groundwater and crushed bedrock.

# Table 3
# ZVI Kinetics Batch Test Results: VOCs
Former Emerson Street Landfill
Rochester, New York

| Analyte | Baseline | Baseline Dup | GROUNDWATER DATA - CONTROLS | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Day 0 | Day 0.5 | | Day 1 | | Day 2 | | Day 3 | | Day 4 | | Day 5 | | Day 8 | | Day 13 | | Day 25 | |
| | | | Control | Control | Control Dup | Control | Control Dup | Control | Control Dup | Control | Control Dup | Control | Control Dup | Control | Control Dup | Control | Control Dup | Control | Control Dup | Control | Control Dup |
| **VOCs**[1] | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) |
| **1,1-Dichloroethene** | **5.6** | **6.3** | **11** | **8.5** | **8.1** | **7.8** | **6.6** | **8.8** | **9.1** | **8.4** | **8.2** | **7.1** | **7.0** | **8.7** | **8.2** | **8.1** | **8.0** | **7.5** | **6.8** | **6.4** | **6.7** |
| **cis-1,2-Dichloroethene** | **340** | **410** | **770** | **690** | **690** | **690** | **640** | **670** | **700** | **690** | **700** | **600** | **600** | **680** | **680** | **570** | **600** | **550** | **530** | **540** | **620** |
| **trans-1,2-Dichloroethene** | **4.7 J** | **5.8 J** | **9.5 J** | **7.6 J** | **8.2 J** | **7.7 J** | **7.2 J** | **7.9 J** | **7.9 J** | **7.8 J** | **7.5 J** | **7.6 J** | **7.6 J** | **8.0 J** | **7.8 J** | **7.2 J** | **7.2 J** | **6.4 J** | **7.0 J** | **6.6** | **6.3 J** |
| **Tetrachloroethene** | **350** | **440** | **210** | **150** | **150** | **140** | **130** | **140** | **150** | **130** | **130** | **140** | **140** | **140** | **140** | **110** | **100** | **97** | **99** | **81** | **100** |
| **1,1,1-Trichloroethane** | **160** | **170** | **330** | **270** | **280** | **270** | **230** | **280** | **300** | **300** | **300** | **270** | **270** | **310** | **300** | **250** | **250** | **230** | **220** | **200** | **280** |
| **Trichloroethene** | **22** | **25** | **29** | **23** | **25** | **23** | **20** | **24** | **25** | **23** | **22** | **21** | **21** | **23** | **23** | **19** | **20** | **18** | **18** | **17** | **21** |
| **Vinyl Chloride** | **200** | **300** | **610** | **490** | **510** | **490** | **390** | **400** | **450** | **380** | **380** | **370** | **370** | **400** | **390** | **370** | **380** | **360** | **350** | **300** | **200** |
| Acetone | **8.9 J** | **8.3 J** | **14 J** | **19 J** | **17 J** | **16 J** | **16 J** | **17 J** | **19 J** | **29** | **28** | **22** | **17 J** | **18 J** | **21** | **7.9 J** | **13 J** | 20 U | 25 U | **11** | **5.9 J** |
| Benzene | **5.2** | **5.6** | **7.4** | **6.1** | **6.3** | **6.1** | **6.0** | **5.6** | **6.2** | **4.9** | **4.8** | **4.6** | **3.8** | **3.7** | **4.0** | **2.4** | **3.2** | **1.8 J** | **2.3 J** | **3.0** | **3.0** |
| 2-Butanone | 25 U | 12 U | 25 U | 50 U | **11 J** | **11 J** | 25 U | **11 J** | 25 U | **13 J** | **11 J** | 20 U | 20 U | 20 U | 20 U | 20 U | 25 U | 20 U | 25 U | 10 U | 20 U |
| Chloroethane | **99** | **170** | **230** | **200** | **220** | **220** | **180** | **190** | **210** | **170** | **170** | **100** | **100** | **170** | **170** | **170** | **180** | **180** | **170** | **140** | **88** |
| 1,1-Dichloroethane | **300** | **380** | **720** | **650** | **650** | **660** | **600** | **610** | **650** | **640** | **640** | **590** | **600** | **640** | **630** | **570** | **590** | **540** | **520** | **530** | **590** |
| Dichlorofluoromethane | 25 U | 12 U | 25 U | 50 U | 25 U | 25 U | 25 U | 25 U | 25 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 20 U | 25 U | 20 U | 25 U | 10 U | 20 U |
| Ethyl Ether | **6.3 J** | **9.2** | **11 J** | **12 J** | **11 J** | **11 J** | **11 J** | **9.6 J** | **10 J** | **10** | **10** | **6.2 J** | **5.8 J** | **10** | **10** | **9.2 J** | **8.8 J** | **7.7 J** | **9.0 J** | **9.5** | **7.3 J** |
| Freon-113 | **190** | **160** | **390** | **130** | **120** | **110** | **54** | **120** | **140** | **120** | **110** | **110** | **100** | **130** | **120** | **120** | **110** | **93** | **90** | **56** | **89** |
| Toluene | **40** | **31** | **30** | **22 J** | **22** | **22** | **22** | **21** | **23** | **14** | **13** | **14** | **10** | **8.5 J** | **11** | **4.7 J** | **7.7 J** | **4.3 J** | **5.5 J** | **7.5** | **6.8 J** |
| m/p-Xylene | **14** | **8.2** | 12 U | 25 U | 12 U | 12 U | 12 U | 12 U | 12 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 12 U | 10 U | 12 U | 5 U | 10 U |
| o-Xylene | **10 J** | **9.4 J** | **8.8 J** | 25 U | **5.5 J** | **5.7 J** | **5.8 J** | **4.7 J** | **5.1 J** | 10 U | 10 U | **3.4 J** | 10 U | 10 U | 10 U | 10 U | 12 U | 10 U | 12 U | 5 U | 10 U |
| **Total Detected COCs** | **1,572** | **1,897** | **1,970** | **1,639** | **1,671** | **1,629** | **1,424** | **1,531** | **1,642** | **1,539** | **1,548** | **1,416** | **1,416** | **1,570** | **1,549** | **1,334** | **1,365** | **1,269** | **1,231** | **1,151** | **1,234** |

Notes:
ZVI = zero valent iron
COCs = contaminants of concern for the treatability study (denoted in bold)
VOCs = volatile organic compounds
µg/L = micrograms per liter
J = indicates an estimated value
U = not detected at the indicated concentration
N/A = not applicable; control not detected and treated test reactor either not detected or detected at a concentration below the control reporting limit (RL).
NR = no reduction; indicates an increase in concentration compared to the control, but the sample was not detected at the indicated concentration.
Negative percent reductions indicate an increase in concentration compared to the control.
1. Only detected compounds are shown. VOCs in bold indicate the COCs for the treatability study.
2. Percent reductions were calculated by comparison with the control specific to each time point.
3. For the purposes of this evaluation, the sample RL was used to calculate percent reduction for values that were not detected above the sample RL.
4. Control reactors did not contain ZVI.

# Table 3
## ZVI Kinetics Batch Test Results: VOCs
Former Emerson Street Landfill
Rochester, New York

| Analyte | GROUNDWATER DATA - FEROX FLOW LOW (1%) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Day 0.5 | | Day 1 | | Day 2 | | Day 3 | | Day 4 | | Day 5 | | Day 8 | | Day 13 | |
| | Ferox Flow Low (1%) | Percent Reduction[2,3] | Ferox Flow Low (1%) | Percent Reduction[2,3] | Ferox Flow Low (1%) | Percent Reduction[2,3] | Ferox Flow Low (1%) | Percent Reduction[2,3] | Ferox Flow Low (1%) | Percent Reduction[2,3] | Ferox Flow Low (1%) | Percent Reduction[2,3] | Ferox Flow Low (1%) | Percent Reduction[2,3] | Ferox Flow Low (1%) | Percent Reduction[2,3] |
| VOCs[1] | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) |
| **1,1-Dichloroethene** | **5.8** | 30 | **6.3** | 13 | **7.8** | 13 | **6.7** | 19 | **6.4** | 9 | **7.4** | 12 | **6.4** | 20 | **4.9** | 31 |
| **cis-1,2-Dichloroethene** | **560** | 19 | **620** | 7 | **690** | -1 | **640** | 8 | **580** | 3 | **610** | 10 | **550** | 6 | **520** | 4 |
| **trans-1,2-Dichloroethene** | **6.4 J** | 19 | **7.1 J** | 5 | **8.8 J** | -11 | **6.8 J** | 11 | **6.5 J** | 14 | **6.1 J** | 23 | **5.5 J** | 24 | **3.9 J** | 42 |
| **Tetrachloroethene** | **130** | 13 | **120** | 11 | **140** | 3 | **120** | 8 | **120** | 14 | **100** | 29 | **90** | 14 | **78** | 20 |
| **1,1,1-Trichloroethane** | **220** | 20 | **230** | 8 | **270** | 7 | **230** | 23 | **190** | 30 | **160** | 48 | **100** | 60 | **42** | 81 |
| **Trichloroethene** | **19** | 21 | **20** | 7 | **22** | 10 | **18** | 20 | **17** | 19 | **15** | 35 | **11** | 44 | **6.8** | 62 |
| **Vinyl Chloride** | **360** | 28 | **400** | 9 | **410** | 4 | **330** | 13 | **340** | 8 | **370** | 6 | **320** | 15 | **300** | 15 |
| Acetone | **29** | -61 | **25** | -56 | **24 J** | -33 | **27** | 5 | **16 J** | 18 | **18 J** | 8 | **16 J** | -53 | **12 J** | N/A |
| Benzene | **5.2** | 16 | **5.6** | 7 | **7.0** | -19 | **5.5** | -13 | **5.5** | -31 | **5.7** | -48 | **5.2** | -86 | **4.7** | -129 |
| 2-Butanone | **13 J** | 57 | **12 J** | 33 | **12 J** | 33 | **15 J** | -25 | 20 U | N/A | **12 J** | N/A | **10 J** | N/A | **8.5 J** | N/A |
| Chloroethane | **180** | 14 | **200** | 0 | **200** | 0 | **160** | 6 | **97** | 3 | **180** | -6 | **170** | 3 | **160** | 9 |
| 1,1-Dichloroethane | **560** | 14 | **620** | 2 | **670** | -6 | **620** | 3 | **600** | -1 | **600** | 6 | **570** | 2 | **550** | -4 |
| Dichlorofluoromethane | 25 U | N/A | 25 U | N/A | 25 U | N/A | 20 U | N/A | 20 U | N/A | 20 U | N/A | 20 U | N/A | 20 U | N/A |
| Ethyl Ether | **9.6 J** | 17 | **11 J** | 0 | **10 J** | -2 | **9.8 J** | 2 | **5.6 J** | 7 | **10** | 0 | **9.7 J** | -8 | **8.4 J** | -1 |
| Freon-113 | **79** | 37 | **88** | -7 | **140** | -8 | **100** | 13 | **100** | 5 | **110** | 12 | **84** | 27 | **35** | 62 |
| Toluene | **18** | 18 | **20** | 9 | **23** | -5 | **18** | -33 | **18** | -50 | **19** | -95 | **17** | -174 | **16** | -227 |
| m/p-Xylene | 12 U | N/A | 12 U | N/A | **5.3 J** | N/A | 10 U | N/A | 10 U | N/A | 10 U | N/A | 10 U | N/A | 10 U | N/A |
| o-Xylene | **4.8 J** | 69 | **5.5 J** | 4 | **6.8 J** | -39 | **4.8 J** | N/A | **5.0 J** | 25 | **4.8 J** | N/A | **4.4 J** | N/A | **4.0 J** | N/A |
| **Total Detected COCs** | **1,301** | 22 | **1,403** | 8 | **1,549** | 2 | **1,352** | 12 | **1,260** | 11 | **1,269** | 19 | **1,083** | 20 | **956** | 24 |

Notes:
ZVI = zero valent iron
COCs = contaminants of concern for the treatability study (denoted in bold)
VOCs = volatile organic compounds
µg/L = micrograms per liter
J = indicates an estimated value
U = not detected at the indicated concentration
N/A = not applicable; control not detected and treated test reactor either not detected or detected at a concentration below the control reporting limit (RL).
NR = no reduction; indicates an increase in concentration compared to the control, but the sample was not detected at the indicated concentration.
Negative percent reductions indicate an increase in concentration compared to the control.
1. Only detected compounds are shown. VOCs in bold indicate the COCs for the treatability study.
2. Percent reductions were calculated by comparison with the control specific to each time point.
3. For the purposes of this evaluation, the sample RL was used to calculate percent reduction for values that were not detected above the sample RL.
4. Control reactors did not contain ZVI.

# Table 3
## ZVI Kinetics Batch Test Results: VOCs
Former Emerson Street Landfill
Rochester, New York

| Analyte | GROUNDWATER DATA - FEROX FLOW HIGH (5%) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Day 0.5 | | Day 1 | | Day 2 | | Day 3 | | Day 4 | | Day 5 | | Day 8 | | Day 13 | | Day 25 | |
| | Ferox Flow High (5%) | Percent Reduction[2,3] | Ferox Flow High (5%) | Percent Reduction[2,3] | Ferox Flow High (5%) | Percent Reduction[2,3] | Ferox Flow High (5%) | Percent Reduction[2,3] | Ferox Flow High (5%) | Percent Reduction[2,3] | Ferox Flow High (5%) | Percent Reduction[2,3] | Ferox Flow High (5%) | Percent Reduction[2,3] | Ferox Flow High (5%) | Percent Reduction[2,3] | Ferox Flow High (5%) | Percent Reduction[2,3] |
| **VOCs[1]** | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) |
| **1,1-Dichloroethene** | **6.2** | 25 | **6.2** | 14 | **5.4** | 40 | **4.8** | 42 | **3.9** | 45 | **3.9** | 54 | **2.2 J** | 73 | 2.5 U | 65 | 2.0 U | 69 |
| **cis-1,2-Dichloroethene** | **600** | 13 | **600** | 10 | **540** | 21 | **560** | 19 | **500** | 17 | **480** | 29 | **380** | 35 | **230** | 57 | **96** | 83 |
| **trans-1,2-Dichloroethene** | **6.4 J** | 19 | **6.3 J** | 15 | **5.4 J** | 32 | **4.4 J** | 42 | **3.8 J** | 50 | **2.9 J** | 63 | 12 U | NR | 12 U | -79 | 10 U | NR |
| **Tetrachloroethene** | **110** | 27 | **100** | 26 | **99** | 32 | **82** | 37 | **89** | 36 | **79** | 44 | **55** | 48 | **32** | 67 | **14** | 85 |
| **1,1,1-Trichloroethane** | **210** | 24 | **200** | 20 | **160** | 45 | **120** | 60 | **88** | 67 | **63** | 79 | **26** | 90 | 12 U | 95 | 10 U | 96 |
| **Trichloroethene** | **19** | 21 | **18** | 16 | **16** | 35 | **12** | 47 | **10** | 52 | **8** | 63 | **5.3** | 73 | **1.4 J** | 92 | **1.3 J** | 93 |
| **Vinyl Chloride** | **400** | 20 | **390** | 11 | **320** | 25 | **290** | 24 | **300** | 19 | **290** | 27 | **230** | 39 | **120** | 66 | **26** | 90 |
| Acetone | **30** | -67 | **30** | -88 | **25** | -39 | **33** | -16 | **22** | -13 | **30** | -54 | **23 J** | -120 | **7.5 J** | N/A | **8.5 J** | -1 |
| Benzene | **5.6** | 10 | **5.7** | 6 | **5.3** | 10 | **5.4** | -11 | **5.4** | -29 | **5.5** | -43 | **4.8** | -71 | **4.2** | -105 | **4.7** | -57 |
| 2-Butanone | **14 J** | 54 | **13 J** | 28 | **12 J** | 33 | **16 J** | -33 | **11 J** | N/A | **13 J** | N/A | **13 J** | N/A | 25 U | N/A | 20 U | N/A |
| Chloroethane | **200** | 5 | **190** | 5 | **150** | 25 | **160** | 6 | **97** | 3 | **190** | -12 | **150** | 14 | **160** | 9 | **88** | 23 |
| 1,1-Dichloroethane | **610** | 6 | **620** | 2 | **550** | 13 | **610** | 5 | **600** | -1 | **600** | 6 | **550** | 5 | **500** | 6 | **520** | 7 |
| Dichlorofluoromethane | 25 U | N/A | 25 U | N/A | 25 U | N/A | 20 U | N/A | 20 U | N/A | **5.4 J** | N/A | 25 U | N/A | 25 U | N/A | 20 U | N/A |
| Ethyl Ether | **10 J** | 13 | **11 J** | 0 | **8.4 J** | 14 | **9.3 J** | 7 | **5.7 J** | 5 | **9.0 J** | 10 | **9.0 J** | 0 | **9.0 J** | -8 | **9.4 J** | -12 |
| Freon-113 | **97** | 22 | **83** | -1 | **92** | 29 | **79** | 31 | **77** | 27 | **74** | 41 | **59** | 49 | **14** | 85 | 10 U | 86 |
| Toluene | **18** | 18 | **18** | 18 | **18** | 18 | **15** | -11 | **16** | -33 | **16** | -64 | **14** | -126 | **12** | -145 | **12** | -68 |
| m/p-Xylene | 12 U | N/A | 12 U | N/A | 12 U | N/A | 10 U | N/A | 10 U | N/A | **2.8 J** | N/A | 12 U | N/A | 12 U | N/A | **2.8 J** | N/A |
| o-Xylene | **4.2 J** | 72 | **4.2 J** | 27 | **4.6 J** | 6 | **3.8 J** | N/A | **4.0 J** | 40 | **3.9 J** | N/A | 12 U | N/A | 12 U | N/A | 10 U | N/A |
| **Total Detected COCs** | **1,352** | 19 | **1,321** | 13 | **1,146** | 28 | **1,073** | 30 | **995** | 30 | **927** | 41 | **699** | 48 | **383** | 69 | **137** | 88 |

Notes:
ZVI = zero valent iron
COCs = contaminants of concern for the treatability study (denoted in bold)
VOCs = volatile organic compounds
µg/L = micrograms per liter
J = indicates an estimated value
U = not detected at the indicated concentration
N/A = not applicable; control not detected and treated test reactor either not detected or detected at a concentration below the control reporting limit (RL).
NR = no reduction; indicates an increase in concentration compared to the control, but the sample was not detected at the indicated concentration.
Negative percent reductions indicate an increase in concentration compared to the control.
1. Only detected compounds are shown. VOCs in bold indicate the COCs for the treatability study.
2. Percent reductions were calculated by comparison with the control specific to each time point.
3. For the purposes of this evaluation, the sample RL was used to calculate percent reduction for values that were not detected above the sample RL.
4. Control reactors did not contain ZVI.

# Table 3
## ZVI Kinetics Batch Test Results: VOCs
Former Emerson Street Landfill
Rochester, New York

| Analyte | GROUNDWATER DATA - FEROX TARGET LOW (1%) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Day 0.5 | | Day 1 | | Day 2 | | Day 3 | | Day 4 | | Day 5 | | Day 8 | | Day 13 | |
| | Ferox Target Low (1%) | Percent Reduction[2,3] | Ferox Target Low (1%) | Percent Reduction[2,3] | Ferox Target Low (1%) | Percent Reduction[2,3] | Ferox Target Low (1%) | Percent Reduction[2,3] | Ferox Target Low (1%) | Percent Reduction[2,3] | Ferox Target Low (1%) | Percent Reduction[2,3] | Ferox Target Low (1%) | Percent Reduction[2,3] | Ferox Target Low (1%) | Percent Reduction[2,3] |
| VOCs[1] | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) |
| **1,1-Dichloroethene** | **7.0** | 16 | **6.3** | 13 | **7.3** | 18 | **5.1** | 39 | **5.2** | 26 | **4.5** | 47 | **3.5** | 57 | 2.0 U | 72 |
| **cis-1,2-Dichloroethene** | **600** | 13 | **640** | 4 | **620** | 9 | **580** | 17 | **570** | 5 | **570** | 16 | **490** | 16 | **420** | 22 |
| **trans-1,2-Dichloroethene** | 25 U | -216 | **7.0 J** | 6 | **7.0 J** | 11 | **4.4 J** | 42 | **5.3 J** | 30 | **4.3 J** | 46 | **3.3 J** | 54 | 10 U | -49 |
| **Tetrachloroethene** | **140** | 7 | **120** | 11 | **130** | 10 | **100** | 23 | **120** | 14 | **100** | 29 | **75** | 29 | **58** | 41 |
| **1,1,1-Trichloroethane** | **150** | 45 | **130** | 48 | **97** | 67 | **51** | 83 | **39** | 86 | **16** | 95 | **12** | 95 | 10 U | 96 |
| **Trichloroethene** | **20** | 17 | **20** | 7 | **18** | 27 | **14** | 38 | **13** | 38 | **10** | 57 | **6.3** | 68 | **2.8** | 84 |
| **Vinyl Chloride** | **410** | 18 | **430** | 2 | **340** | 20 | **280** | 26 | **330** | 11 | **320** | 19 | **260** | 31 | **210** | 41 |
| Acetone | **30 J** | -67 | **22 J** | -38 | **20 J** | -11 | **33** | -16 | **15 J** | 23 | **24** | -23 | **22** | -111 | **13 J** | N/A |
| Benzene | **6.5** | -5 | **6.8** | -12 | **6.4** | -8 | **6.2** | -28 | **6.4** | -52 | **6.8** | -77 | **5.7** | -104 | **5.5** | -168 |
| 2-Butanone | 50 U | -64 | **14 J** | 22 | **11 J** | 39 | **18 J** | -50 | **11 J** | N/A | **14 J** | N/A | **14 J** | N/A | **8.7 J** | N/A |
| Chloroethane | **190** | 10 | **210** | -5 | **180** | 10 | **150** | 12 | **100** | 0 | **190** | -12 | **150** | 14 | **160** | 9 |
| 1,1-Dichloroethane | **610** | 6 | **650** | -3 | **590** | 6 | **590** | 8 | **610** | -3 | **620** | 2 | **540** | 7 | **510** | 4 |
| Dichlorofluoromethane | 50 U | N/A | 25 U | N/A | 25 U | N/A | 20 U | N/A | 20 U | N/A | **7.4 J** | N/A | **5.3 J** | N/A | 20 U | N/A |
| Ethyl Ether | **9.7 J** | 16 | **10 J** | 9 | **10 J** | 3 | **10** | 0 | **5.4 J** | 10 | **9.6 J** | 4 | **8.8 J** | 2 | **7.9 J** | 5 |
| Freon-113 | **100** | 20 | **89** | -9 | **96** | 26 | **78** | 32 | **84** | 20 | **67** | 46 | **47** | 59 | **7.0 J** | 92 |
| Toluene | **20 J** | 9 | **22** | 0 | **23** | -5 | **19** | -41 | **21** | -75 | **21** | -115 | **18** | -190 | **18** | -267 |
| m/p-Xylene | 25 U | N/A | 12 U | N/A | 12 U | N/A | 10 U | N/A | 10 U | N/A | 10 U | N/A | 10 U | N/A | 10 U | N/A |
| o-Xylene | 25 U | NR | **5.9 J** | -3 | **6.5 J** | -33 | **4.9 J** | N/A | **5.6 J** | 16 | **5.7 J** | N/A | **4.3 J** | N/A | **4.6 J** | N/A |
| **Total Detected COCs** | **1,327** | 20 | **1,353** | 11 | **1,219** | 23 | **1,035** | 33 | **1,083** | 24 | **1,025** | 34 | **850** | 37 | **691** | 45 |

Notes:
ZVI = zero valent iron
COCs = contaminants of concern for the treatability study (denoted in bold)
VOCs = volatile organic compounds
µg/L = micrograms per liter
J = indicates an estimated value
U = not detected at the indicated concentration
N/A = not applicable; control not detected and treated test reactor either not detected or detected at a concentration below the control reporting limit (RL).
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Negative percent reductions indicate an increase in concentration compared to the control.
1. Only detected compounds are shown. VOCs in bold indicate the COCs for the treatability study.
2. Percent reductions were calculated by comparison with the control specific to each time point.
3. For the purposes of this evaluation, the sample RL was used to calculate percent reduction for values that were not detected above the sample RL.
4. Control reactors did not contain ZVI.

# Table 3
## ZVI Kinetics Batch Test Results: VOCs
Former Emerson Street Landfill
Rochester, New York

| Analyte | GROUNDWATER DATA - FEROX TARGET HIGH (5%) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Day 0.5 | | Day 1 | | Day 2 | | Day 3 | | Day 4 | | Day 5 | | Day 8 | | Day 13 | | Day 25 | |
| | Ferox Target High (5%) | Percent Reduction[2,3] | Ferox Target High (5%) | Percent Reduction[2,3] | Ferox Target High (5%) | Percent Reduction[2,3] | Ferox Target High (5%) | Percent Reduction[2,3] | Ferox Target High (5%) | Percent Reduction[2,3] | Ferox Target High (5%) | Percent Reduction[2,3] | Ferox Target High (5%) | Percent Reduction[2,3] | Ferox Target High (5%) | Percent Reduction[2,3] | Ferox Target High (5%) | Percent Reduction[2,3] |
| VOCs[1] | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) |
| **1,1-Dichloroethene** | **6.2** | 25 | **6.3** | 13 | **6.0** | 33 | **3.6** | 57 | **2.8** | 60 | **1.7 J** | 80 | **1.4 J** | 83 | 2.5 U | 65 | 2.0 U | 69 |
| **cis-1,2-Dichloroethene** | **620** | 10 | **580** | 13 | **570** | 17 | **500** | 28 | **440** | 27 | **360** | 47 | **280** | 52 | **110** | 80 | **11** | 98 |
| **trans-1,2-Dichloroethene** | **6.7 J** | 15 | **5.9 J** | 21 | **5.1 J** | 35 | **3.4 J** | 56 | 10 U | NR | 12 U | NR | 12 U | NR | 12 U | NR | 10 U | NR |
| **Tetrachloroethene** | **110** | 27 | **100** | 26 | **100** | 31 | **79** | 39 | **89** | 36 | **60** | 57 | **41** | 61 | **16** | 84 | **1.8 J** | 98 |
| **1,1,1-Trichloroethane** | **120** | 56 | **85** | 66 | **32** | 89 | **12** | 96 | **4.5 J** | 98 | 12 U | 96 | 10 U | 96 | 12 U | 95 | 10 U | 96 |
| **Trichloroethene** | **19** | 21 | **18** | 16 | **16** | 35 | **11** | 51 | **9.2** | 56 | **6.6** | 71 | **4.3** | 78 | **1.2 J** | 93 | 2.0 U | 89 |
| **Vinyl Chloride** | **420** | 16 | **340** | 23 | **330** | 22 | **240** | 37 | **230** | 38 | **190** | 52 | **130** | 65 | **44** | 88 | **1.8 J** | 99 |
| Acetone | **31** | -72 | **29** | -81 | **30** | -67 | **39** | -37 | **19 J** | 3 | **27** | -38 | **29** | -178 | **24 J** | -7 | **34** | -302 |
| Benzene | **7.5** | -21 | **7.2** | -19 | **7.5** | -27 | **7.4** | -53 | **7.5** | -79 | **7.5** | -95 | **7.3** | -161 | **6.8** | -232 | **7.5** | -150 |
| 2-Butanone | **17 J** | 44 | **15 J** | 17 | **14 J** | 22 | **24** | -100 | **14 J** | N/A | **18 J** | N/A | **18 J** | N/A | **15 J** | N/A | **25** | N/A |
| Chloroethane | **210** | 0 | **170** | 15 | **180** | 10 | **160** | 6 | **100** | 0 | **200** | -18 | **160** | 9 | **170** | 3 | **110** | 4 |
| 1,1-Dichloroethane | **640** | 2 | **620** | 2 | **620** | 2 | **620** | 3 | **610** | -3 | **590** | 7 | **540** | 7 | **490** | 8 | **450** | 20 |
| Dichlorofluoromethane | 25 U | N/A | 25 U | N/A | **5.9 J** | N/A | 20 U | N/A | 20 U | N/A | **7.8 J** | N/A | **6.8 J** | N/A | 25 U | N/A | 20 U | N/A |
| Ethyl Ether | **11 J** | 4 | **8.9 J** | 19 | **9.2 J** | 6 | **9.9 J** | 1 | **5.7 J** | 5 | **9.3 J** | 7 | **9.4 J** | -4 | **8.6 J** | -3 | **10** | -19 |
| Freon-113 | **80** | 36 | **79** | 4 | **67** | 48 | **43** | 63 | **37** | 65 | **27** | 78 | **5.2 J** | 95 | 12 U | 87 | 10 U | 86 |
| Toluene | **21** | 5 | **22** | 0 | **24** | -9 | **20** | -48 | **22** | -83 | **21** | -115 | **20** | -223 | **19** | -288 | **20** | -180 |
| m/p-Xylene | 12 U | N/A | 12 U | N/A | 10 U | N/A | 10 U | N/A | 10 U | N/A | 12 U | N/A | 10 U | N/A | 12 U | N/A | 10 U | N/A |
| o-Xylene | **5.2 J** | 66 | **5.0 J** | 13 | **5.9 J** | -20 | **4.9 J** | N/A | **5.6 J** | 16 | **5.1 J** | N/A | **4.9 J** | N/A | **4.3 J** | N/A | **4.7 J** | N/A |
| **Total Detected COCs** | **1,302** | 22 | **1,135** | 26 | **1,059** | 33 | **849** | 45 | **776** | 45 | **618** | 60 | **457** | 66 | **171** | 86 | **15** | 99 |

Notes:
ZVI = zero valent iron
COCs = contaminants of concern for the treatability study (denoted in bold)
VOCs = volatile organic compounds
µg/L = micrograms per liter
J = indicates an estimated value
U = not detected at the indicated concentration
N/A = not applicable; control not detected and treated test reactor either not detected or detected at a concentration below the control reporting limit (RL).
NR = no reduction; indicates an increase in concentration compared to the control, but the sample was not detected at the indicated concentration.
Negative percent reductions indicate an increase in concentration compared to the control.
1. Only detected compounds are shown. VOCs in bold indicate the COCs for the treatability study.
2. Percent reductions were calculated by comparison with the control specific to each time point.
3. For the purposes of this evaluation, the sample RL was used to calculate percent reduction for values that were not detected above the sample RL.
4. Control reactors did not contain ZVI.

# Table 3
## ZVI Kinetics Batch Test Results: VOCs
Former Emerson Street Landfill
Rochester, New York

| Analyte | GROUNDWATER DATA - eZVI LOW (1%) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Day 0.5 | | Day 1 | | Day 2 | | Day 3 | | Day 4 | | Day 5 | | Day 8 | | Day 13 | |
| | eZVI Low (1%) | Percent Reduction[2,3] | eZVI Low (1%) | Percent Reduction[2,3] | eZVI Low (1%) | Percent Reduction[2,3] | eZVI Low (1%) | Percent Reduction[2,3] | eZVI Low (1%) | Percent Reduction[2,3] | eZVI Low (1%) | Percent Reduction[2,3] | eZVI Low (1%) | Percent Reduction[2,3] | eZVI Low (1%) | Percent Reduction[2,3] |
| **VOCs[1]** | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) |
| **1,1-Dichloroethene** | 50 U | NR | 50 U | NR | 50 U | NR | **9.7 J** | -17 | **7.3 J** | -4 | **9.5 J** | -12 | **5.6 J** | 30 | **4.9 J** | 31 |
| **cis-1,2-Dichloroethene** | **640** | 7 | **630** | 5 | **640** | 7 | **660** | 5 | **580** | 3 | **680** | 0 | **520** | 11 | **520** | 4 |
| **trans-1,2-Dichloroethene** | 250 U | NR | 250 U | NR | 250 U | NR | 50 U | NR | 50 U | NR | 50 U | NR | 62 U | NR | 62 U | NR |
| **Tetrachloroethene** | **220** | -47 | **220** | -63 | **230** | -59 | **230** | -77 | **220** | -57 | **240** | -71 | **190** | -81 | **190** | -94 |
| **1,1,1-Trichloroethane** | **220 J** | 20 | **180 J** | 28 | **210 J** | 28 | **150** | 50 | **140** | 48 | **140** | 54 | **60 J** | 76 | **18 J** | 92 |
| **Trichloroethene** | **30 J** | -25 | **28 J** | -30 | **27 J** | -10 | **26** | -16 | **24** | -14 | **27** | -17 | **19** | 3 | **17** | 6 |
| **Vinyl Chloride** | **460** | 8 | **470** | -7 | **380** | 11 | **360** | 5 | **350** | 5 | **380** | 4 | **320** | 15 | **320** | 10 |
| Acetone | 500 U | NR | 500 U | NR | 500 U | NR | **56 J** | -96 | **54 J** | -177 | **53 J** | -172 | **45 J** | -331 | 120 U | N/A |
| Benzene | 50 U | NR | 50 U | NR | 50 U | NR | **6.8 J** | -40 | **6 J** | -43 | **7.0 J** | -82 | **5.4 J** | -93 | **4.9 J** | -139 |
| 2-Butanone | **300 J** | -884 | **340 J** | -1789 | **320 J** | -1678 | **370** | -2983 | **310** | -1450 | **390** | -1850 | **320** | -1322 | **230** | -922 |
| Chloroethane | **190 J** | 10 | **180 J** | 10 | **200 J** | 0 | **160** | 6 | **210** | -110 | **170** | 0 | **180** | -3 | **170** | 3 |
| 1,1-Dichloroethane | **620** | 5 | **600** | 5 | **610** | 3 | **620** | 3 | **560** | 6 | **640** | -1 | **540** | 7 | **520** | 2 |
| Dichlorofluoromethane | 500 U | N/A | 500 U | N/A | 500 U | N/A | 100 U | N/A | 100 U | N/A | 100 U | N/A | 120 U | N/A | 120 U | N/A |
| Ethyl Ether | 250 U | NR | 250 U | NR | 250 U | NR | 50 U | NR | 50 U | NR | 50 U | NR | 62 U | NR | 62 U | NR |
| Freon-113 | **300** | -140 | **290** | -254 | **350** | -169 | **290** | -152 | **290** | -176 | **310** | -148 | **190** | -65 | **52 J** | 43 |
| Toluene | 250 U | NR | 250 U | NR | 250 U | NR | **30 J** | -122 | **29 J** | -142 | **32** | -228 | **26 J** | -319 | **24 J** | -390 |
| m/p-Xylene | 250 U | N/A | 250 U | N/A | 250 U | N/A | 50 U | N/A | 50 U | N/A | 50 U | N/A | 62 U | N/A | 62 U | N/A |
| o-Xylene | 250 U | NR | 250 U | NR | 250 U | NR | 50 U | N/A | 50 U | NR | 50 U | N/A | 62 U | N/A | 62 U | N/A |
| **Total Detected COCs** | **1,570** | 5 | **1,528** | 0 | **1,487** | 6 | **1,436** | 7 | **1,321** | 7 | **1,477** | 5 | **1,115** | 17 | **1,070** | 14 |

Notes:
ZVI = zero valent iron
COCs = contaminants of concern for the treatability study (denoted in bold)
VOCs = volatile organic compounds
µg/L = micrograms per liter
J = indicates an estimated value
U = not detected at the indicated concentration
N/A = not applicable; control not detected and treated test reactor either not detected or detected at a concentration below the control reporting limit (RL).
NR = no reduction; indicates an increase in concentration compared to the control, but the sample was not detected at the indicated concentration.
Negative percent reductions indicate an increase in concentration compared to the control.
1. Only detected compounds are shown. VOCs in bold indicate the COCs for the treatability study.
2. Percent reductions were calculated by comparison with the control specific to each time point.
3. For the purposes of this evaluation, the sample RL was used to calculate percent reduction for values that were not detected above the sample RL.
4. Control reactors did not contain ZVI.

# Table 3
# ZVI Kinetics Batch Test Results: VOCs
Former Emerson Street Landfill
Rochester, New York

| Analyte | GROUNDWATER DATA - eZVI High (5%) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Day 0.5 | | Day 1 | | Day 2 | | Day 3 | | Day 4 | | Day 5 | | Day 8 | | Day 13 | | Day 25 | |
| | eZVI High (5%) | Percent Reduction[2,3] | eZVI High (5%) | Percent Reduction[2,3] | eZVI High (5%) | Percent Reduction[2,3] | eZVI High (5%) | Percent Reduction[2,3] | eZVI High (5%) | Percent Reduction[2,3] | eZVI High (5%) | Percent Reduction[2,3] | eZVI High (5%) | Percent Reduction[2,3] | eZVI High (5%) | Percent Reduction[2,3] | eZVI High (5%) | Percent Reduction[2,3] |
| **VOCs[1]** | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (%) |
| **1,1-Dichloroethene** | 20 U | NR | 20 U | NR | 50 U | NR | **5.2 J** | 37 | 10 U | NR | **5.0 J** | 41 | **6.6 J** | 18 | **4.2 J** | 41 | **50.0** U | NR |
| **cis-1,2-Dichloroethene** | **300** | 57 | **300** | 55 | **290** | 58 | **410** | 41 | **280** | 53 | **420** | 38 | **460** | 21 | **380** | 30 | **530** | 9 |
| **trans-1,2-Dichloroethene** | 100 U | NR | 100 U | NR | 250 U | NR | 50 U | NR | 50 U | NR | 50 U | NR | 62 U | NR | 62 U | NR | 250 U | NR |
| **Tetrachloroethene** | **40** | 73 | **36** | 73 | **51** | 65 | **130** | 0 | **57** | 59 | **110** | 21 | **170** | -62 | **120** | -22 | **190** | -110 |
| **1,1,1-Trichloroethane** | **32 J** | 88 | **36 J** | 86 | 250 U | 14 | **91** | 70 | **40 J** | 85 | **72** | 76 | **65** | 74 | 62 U | 72 | 250 U | NR |
| **Trichloroethene** | **8.2 J** | NR | **7.6 J** | 65 | 50 U | NR | **15** | 33 | **8.3 J** | 60 | **14** | 39 | **18** | 8 | **12** | 33 | **25 J** | -32 |
| **Vinyl Chloride** | **300** | 40 | **310** | 30 | **250** | 41 | **270** | 29 | **230** | 38 | **280** | 29 | **290** | 23 | **240** | 32 | **130** | 48 |
| Acetone | **110 J** | NR | **110 J** | -588 | 500 U | NR | **120** | -321 | **85 J** | -336 | **100** | -413 | **58 J** | -455 | **100 J** | -344 | **500** U | NR |
| Benzene | 20 U | NR | 20 U | NR | 50 U | NR | **5.5 J** | -13 | 10 U | NR | **4.9 J** | -27 | **6.5 J** | -132 | **4.1 J** | -100 | **50.0** U | NR |
| 2-Butanone | **1,300** | -4162 | **1,400** | -7678 | **1,400** | -7678 | **1,500** | -12400 | **1,500** | -7400 | **1,700** | -8400 | **1,100** | -4789 | **780** | -3367 | **410 J** | -2633 |
| Chloroethane | **140** | 33 | **130 J** | 35 | **130 J** | 35 | **140** | 18 | **130** | -30 | **140** | 18 | **160** | 9 | **140** | 20 | **77 J** | 32 |
| 1,1-Dichloroethane | **290** | 55 | **290** | 54 | **300** | 52 | **410** | 36 | **280** | 53 | **400** | 37 | **470** | 19 | **380** | 28 | **530** | 5 |
| Dichlorofluoromethane | 200 U | N/A | 200 U | N/A | 500 U | N/A | 100 U | N/A | 100 U | N/A | 100 U | N/A | 120 U | N/A | 120 U | N/A | 500 U | N/A |
| Ethyl Ether | 100 U | NR | 100 U | NR | 250 U | NR | 50 U | NR | 50 U | NR | 50 U | NR | 62 U | NR | 62 U | NR | 250 U | NR |
| Freon-113 | **64 J** | 49 | **63 J** | 23 | **94 J** | 28 | **190** | -65 | **85** | 19 | **150** | -20 | **200** | -74 | **50 J** | 45 | **250** U | NR |
| Toluene | 100 U | NR | 100 U | NR | 250 U | NR | **28 J** | -107 | 50 U | NR | **22 J** | -126 | **34 J** | -448 | **24 J** | -390 | **250** U | NR |
| m/p-Xylene | 100 U | N/A | 100 U | N/A | 250 U | N/A | **16 J** | -60 | 50 U | N/A | 50 U | N/A | **18 J** | -64 | 62 U | N/A | 250 U | N/A |
| o-Xylene | 100 U | NR | 100 U | NR | 250 U | NR | 50 U | N/A | 50 U | NR | 50 U | N/A | 62 U | N/A | 62 U | N/A | 250 U | N/A |
| **Total Detected COCs** | **680** | 59 | **690** | 55 | **591** | 63 | **921** | 40 | **615** | 57 | **901** | 42 | **1,010** | 25 | **756** | 39 | **875** | 27 |

Notes:
ZVI = zero valent iron
COCs = contaminants of concern for the treatability study (denoted in bold)
VOCs = volatile organic compounds
µg/L = micrograms per liter
J = indicates an estimated value
U = not detected at the indicated concentration
N/A = not applicable; control not detected and treated test reactor either not detected or detected at a concentration below the control reporting limit (RL).
NR = no reduction; indicates an increase in concentration compared to the control, but the sample was not detected at the indicated concentration.
Negative percent reductions indicate an increase in concentration compared to the control.
1. Only detected compounds are shown. VOCs in bold indicate the COCs for the treatability study.
2. Percent reductions were calculated by comparison with the control specific to each time point.
3. For the purposes of this evaluation, the sample RL was used to calculate percent reduction for values that were not detected above the sample RL.
4. Control reactors did not contain ZVI.

**Table 4**
**ZVI Kinetics Batch Test Results: pH and ORP**
Former Emerson Street Landfill
Rochester, New York

| Test Condition | | Day 0 | | Day 0.5 | | Day 1 | | Day 2 | | Day 3 | | Day 4 | | Day 5 | | Day 8 | | Day 13 | | Day 25 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | pH | ORP | pH | ORP | pH | ORP | pH | ORP | pH | ORP | pH | ORP | pH | ORP | pH | ORP | pH | ORP | pH | ORP |
| | | -- | (mV) | -- | (mV) | -- | (mV) | -- | (mV) | -- | (mV) | -- | (mV) | -- | (mV) | -- | (mV) | -- | (mV) | -- | (mV) |
| Baseline | | 7.4 | 97 | | | | | | | | | | | | | | | | | | |
| Control | | 7.45 | 96 | 7.5 | 18 | 7.5 | 11 | 7.53 | -44 | 7.69 | -67 | 7.45 | -52 | 7.58 | -33 | 7.42 | 9 | 7.54 | 6 | 7.46 | 3 |
| Control Dup | | 7.46 | 97 | 7.49 | 20 | 7.49 | 15 | 7.54 | -37 | 7.89 | -55 | 7.47 | -45 | 7.55 | -22 | 7.56 | 14 | 7.4 | 2 | 7.47 | 2 |
| Ferox Flow | Low (1%) | | | 7.55 | -140 | 7.59 | -142 | 7.66 | -249 | 8.19 | -167 | 7.67 | -157 | 7.69 | -166 | 7.84 | -180 | 8.02 | -185 | nm | nm |
| | High (5%) | | | 7.62 | -186 | 7.8 | -193 | 7.86 | -289 | 8.46 | -237 | 8.46 | -241 | 8.7 | -245 | 9.03 | -249 | 9.62 | -291 | 10.19 | -231 |
| Ferox Target | Low (1%) | | | 7.83 | -237 | 7.83 | -234 | 7.8 | -281 | 8.6 | -258 | 7.94 | -202 | 8.12 | -217 | 8.34 | -255 | 8.78 | -170 | nm | nm |
| | High (5%) | | | 8.22 | -296 | 8.21 | -298 | 8.42 | -326 | 9.1 | -313 | 9.04 | -270 | 9.2 | -160 | 9.33 | -317 | 9.63 | -195 | 10.33 | -251 |
| eZVI | Low (1%) | | | 7.63 | -185 | 7.67 | -221 | 7.62 | -205 | 7.76 | -201 | 7.65 | -172 | 7.65 | -186 | 7.67 | -185 | 7.76 | -173 | nm | nm |
| | High (5%) | | | 7.94 | -274 | 7.93 | -282 | 7.88 | -277 | 8.31 | -268 | 7.92 | -231 | 8.05 | -251 | 7.93 | -254 | 7.84 | -238 | 7.72 | -240 |

Notes:
ZVI = zero valent iron
mV = millivolts
nm = not measured; low (1%) test condtions eliminated from further testing after evaluating Day 13 COC results.
1. Control reactors did not contain ZVI.

**Table 5**

**ZVI Kinetics Batch Test Results: Dissolved Gases and Wet Chemistry**

Former Emerson Street Landfill

Rochester, New York

| Analyte | Units | Day 0 | | Day 25 | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Control | Control Dup | Control | Control Dup | Ferox Flow High (5%) | Ferox Target High (5%) | eZVI High (5%) |
| **Dissolved Gases** | | | | | | | | |
| Methane | µg/L | **1,400** | **1,300** | **48.7** | **44.3** | **217** | **249** | **206** |
| Ethene | µg/L | **133** | **112** | **39.1** | **36.0** | **125** | **182** | **89.0** |
| Ethane | µg/L | **8.48** | **7.38** | **1.70** | **1.80** | **21.3** | **54.4** | **19.1** |
| **Wet Chemistry** | | | | | | | | |
| Alkalinity, Total | mg $CaCO_3$/L | **1,190** | **1,190** | **1,260** | **1,300** | **541** | **542** | **1,170** |
| Sulfate | mg/L | 10 U | 10 U | **84** | **82** | **47** | **41** | 500 U |
| pH | -- | **7.45** | **7.46** | **7.46** | **7.47** | **10.19** | **10.33** | **7.72** |
| ORP | mV | **96** | **97** | **3** | **2** | **-231** | **-251** | **-240** |

Notes:

ZVI = zero valent iron

mg/L = milligrams per liter

µg/L = micrograms per liter

mg $CaCO_3$/L = milligrams calcium carbonate per liter

mV = millivolts

U = not detected at the indicated concentration

1. Control reactors did not contain ZVI.

# Table 6
## ZVI Column Test Results: VOCs
Former Emerson Street Landfill
Rochester, New York

| Analyte | Baseline[2] | Baseline Dup[2] | 4-Foot Treatment | | | | | 4-Foot Treatment: Second / Confirmation Run | | | | | 8-Foot Treatment | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Control[3] | Ferox Flow High (5%) | Percent Reduction [4,5] | Ferox Target High (5%) | Percent Reduction [4,5] | Control[2] | Ferox Flow High (5%) | Percent Reduction [4,5] | Ferox Target High (5%) | Percent Reduction [4,5] | Control[2] | Ferox Flow High (5%) | Percent Reduction [4,5] | Ferox Target High (5%) | Percent Reduction [4,5] |
| **VOCs[1]** | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (µg/L) | (%) | (µg/L) | (%) | (µg/L) | (µg/L) | (%) | (µg/L) | (%) |
| **1,1-Dichloroethene** | **7.8** | **10** | **2.5** | 1.9 U | 24 | 2.1 U | 18 | **2.4** | 1.2 U | 50 | 1.0 U | 58 | **3.1** | 1.2 U | 61 | 1.2 U | 61 |
| **cis-1,2-Dichloroethene** | **460** | **630** | **336** | **191** | 43 | **50** | 85 | **310** | **98** | 68 | **11** | 96 | **400** | **180** | 55 | **26** | 94 |
| **trans-1,2-Dichloroethene** | **5.4 J** | **7.2 J** | 10 U | 9.6 U | N/A | 11 U | N/A | **2.6 J** | 6.2 U | NR | 5.0 U | NR | **3.6 J** | 6.2 U | NR | 6.2 U | NR |
| **Tetrachloroethene** | **420** | **76** | 2.1 U | 1.9 U | N/A | 2.1 U | N/A | **0.50 J** | **21** | -4,100 | 1.0 U | NR | 1.2 U | **41** | -3,317 | 1.2 U | N/A |
| **1,1,1-Trichloroethane** | **220** | **310** | **113** | 9.6 U | 92 | 11 U | 91 | **100** | 6.2 U | 94 | 5.0 U | 95 | **140** | 6.2 U | 96 | 6.2 U | 96 |
| **Trichloroethene** | **24** | **17** | **14** | 1.9 U | 86 | 2.1 U | 85 | **11** | **2.2** | 80 | 1.0 U | 91 | **14** | **4.1** | 71 | 1.2 U | 91 |
| **Vinyl Chloride** | **250** | **380** | **193** | **46** | 76 | **7.6** | 96 | **79** | **16** | 80 | **1.3 J** | 98 | **180** | **28** | 84 | **2.3 J** | 99 |
| Acetone | 12 U | 20 U | **608** | **516** | 15 | **413** | 32 | 12 U | **5.9 J** | N/A | **6.7 J** | N/A | **13** | **27** | -108 | **26** | -100 |
| Benzene | **3.6** | **3.9** | 2.1 U | **2.3** | -9 | **3.6** | -72 | **1.0 J** | **2.3** | -130 | **3.4** | -240 | **1.3** | **2.5** | -92 | **3.2** | -146 |
| 2-Butanone | 12 U | 20 U | 21 U | 19 U | N/A | 21 U | N/A | 12 U | 12 U | N/A | **4.8 J** | N/A | 12 U | 12 U | N/A | 12 U | N/A |
| Chloroethane | **19** | **23** | **15** | **19** | -23 | **19** | -25 | **9.3** | **18** | -94 | **16** | -72 | **17** | **21** | -24 | **20** | -18 |
| 1,1-Dichloroethane | **450** | **610** | **420** | **459** | -9 | **430** | -3 | **260** | **300** | -15 | **250** | 4 | **450** | **470** | -4 | **350** | 22 |
| Dichlorofluoromethane | 12 U | 20 U | 21 U | 19 U | N/A | 21 U | N/A | 12 U | 12 U | N/A | 10 U | N/A | **3.1 J** | **3.5 J** | -13 | 12 U | NR |
| 1,4-Dioxane | **180 J** | 1,000 U | 1,049 U | 956 U | N/A | 1,066 U | N/A | **240 J** | **270 J** | -13 | **300 J** | -25 | **160 J** | **180 J** | -13 | **180 J** | -13 |
| Ethyl Ether | **8.0** | **9.2 J** | 10 U | 9.6 U | N/A | 11 U | N/A | **8.4** | **9.1** | -8 | **9.0** | -7 | **9.2** | **8.6** | 7 | **7.8** | 15 |
| Freon-113 | **170** | **370** | **27** | 9.6 U | 65 | 11 U | 61 | **53** | 6.2 U | 88 | 5.0 U | 91 | **55** | 6.2 U | 89 | 6.2 U | 89 |
| Toluene | **3.2 J** | **3.3 J** | 10 U | 9.6 U | N/A | 11 U | N/A | 6.2 U | **2.6 J** | N/A | **3.1 J** | N/A | 6.2 U | **2.8 J** | N/A | **3.2 J** | N/A |
| m/p-Xylene | 6.2 U | 10 U | 10 U | 9.6 U | N/A | 11 U | N/A | **2.0 J** | **6.0 J** | -200 | **7.2** | -260 | 6.2 U | **5.5 J** | N/A | **5.6 J** | N/A |
| o-Xylene | 6.2 U | 10 U | 10 U | 9.6 U | N/A | 11 U | N/A | 6.2 U | **2.6 J** | N/A | **2.3 J** | N/A | 6.2 U | **2.0 J** | N/A | **2.2 J** | N/A |
| p-Ethyltoluene | 5.0 U | 8.0 U | 8.4 U | 7.6 U | N/A | 8.6 U | N/A | 5.0 U | **2.0 J** | N/A | **3.0 J** | N/A | 5.0 U | **2.0 J** | N/A | **2.7 J** | N/A |
| 1,3,5-Trimethylbenzene | 6.2 U | 10 U | 10 U | 9.6 U | N/A | 11 U | N/A | 6.2 U | **2.3 J** | N/A | **3.3 J** | N/A | 6.2 U | **2.4 J** | N/A | **2.9 J** | N/A |
| 1,2,4-Trimethylbenzene | 6.2 U | 10 U | 10 U | 9.6 U | N/A | 11 U | N/A | 6.2 U | **3.8 J** | N/A | **5.9** | N/A | 6.2 U | **3.4 J** | N/A | **4.0 J** | N/A |
| **Total Detected COCs** | **1,387** | **1,430** | **658** | **237** | 64 | **57** | 91 | **506** | **137** | 73 | **12** | 98 | **741** | **253** | 66 | **28** | 96 |

Notes:
ZVI = zero valent iron
VOCs = volatile organic compounds
J = indicates an estimated value
COCs = contaminants of concern for the treatability study (denoted in bold)
µg/L = micrograms per liter
U = not detected at the indicated concentration
N/A = not applicable; control not detected and treated test reactor either not detected or detected at a concentration below the control reporting limit (RL).
NR = no reduction; indicates an increase in concentration compared to the control, but the sample was not detected at the indicated concentration.
Negative percent reductions indicate an increase in concentration compared to the control.
1. Only detected compounds are shown. VOCs in bold indicate the COCs for the treatability study.
2. The baseline and baseline duplicate were collected from different sample containers. The baseline duplicate was the ultimate batch of groundwater used in the column testing.
3. The control column did not contain ZVI.
4. Percent reductions were calculated by comparison with the control specific to each treatment scenario.
5. For the purposes of this evaluation, the sample RL was used to calculate percent reduction for values that were not detected above the sample RL.

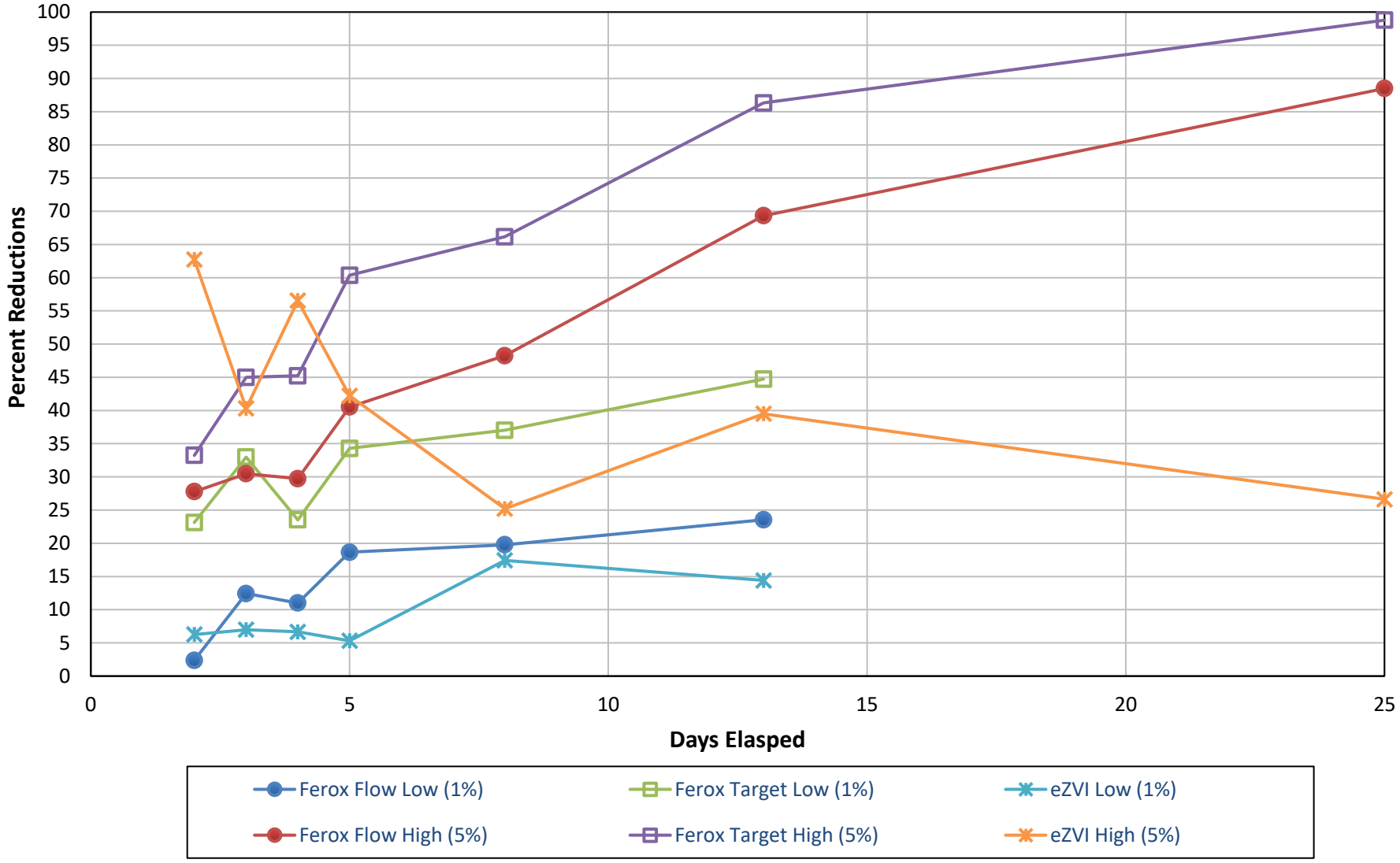
# Table 7
## ZVI Column Test Results: Metals, Dissolved Gases, and Wet Chemistry
Former Emerson Street Landfill
Rochester, New York

| Analyte | Units | Baseline | 4-Foot Treatment [1] | | |
|---|---|---|---|---|---|
| | | | Control[2] | Ferox Flow High (5%) | Ferox Target High (5%) |
| **Metals** | | | | | |
| Aluminum | mg/L | 0.0100 U | **0.00918 J** | **0.00416 J** | **0.00426 J** |
| Antimony | mg/L | 0.00400 U | **0.00087 J** | **0.00063 J** | 0.00400 U |
| Arsenic | mg/L | **0.00160** | **0.01440** | **0.00114** | **0.00088** |
| Barium | mg/L | **1.245** | **0.1511** | **0.03226** | **0.01213** |
| Beryllium | mg/L | 0.00050 U | 0.00050 U | 0.00050 U | 0.00050 U |
| Cadmium | mg/L | 0.00020 U | 0.00020 U | 0.00020 U | 0.00020 U |
| Calcium | mg/L | **120** | **128** | **7.51** | **2.41** |
| Chromium | mg/L | 0.00100 U | **0.00069 J** | 0.00100 U | 0.00100 U |
| Cobalt | mg/L | **0.00141** | **0.00541** | **0.00097** | **0.00062** |
| Copper | mg/L | 0.00100 U | **0.00130** | **0.00095 J** | **0.00066 J** |
| Iron | mg/L | **0.144** | **0.0396 J** | **0.0704** | **0.0208 J** |
| Lead | mg/L | 0.00100 U | **0.01116** | 0.00100 U | 0.00100 U |
| Magnesium | mg/L | **69.5** | **51.7** | **57.6** | **45.0** |
| Manganese | mg/L | **0.04689** | **0.00726** | **0.00670** | **0.01371** |
| Mercury | mg/L | 0.00020 U | 0.00020 U | 0.00020 U | 0.00020 U |
| Nickel | mg/L | **0.00329** | **0.09026** | **0.00338** | **0.00254** |
| Potassium | mg/L | **80.4** | **96.7** | **93.3** | **78.9** |
| Selenium | mg/L | 0.00500 U | 0.00500 U | 0.00500 U | 0.00500 U |
| Silver | mg/L | 0.00040 U | 0.00040 U | 0.00040 U | 0.00040 U |
| Sodium | mg/L | **350** | **347** | **350** | **350** |
| Thallium | mg/L | 0.00050 U | **0.00066 J** | **0.00016 J** | 0.00100 U |
| Vanadium | mg/L | 0.00500 U | 0.00500 U | 0.00500 U | 0.00500 U |
| Zinc | mg/L | 0.01000 U | **0.01466** | 0.01000 U | 0.01000 U |
| **Dissolved Gases** | | | | | |
| Methane | µg/L | **261** | **2.64** | **174** | **75.7** |
| Ethene | µg/L | **64.9** | **6.85** | **56.0** | **244** |
| Ethane | µg/L | **4.10** | **1.32** | **70.7** | **99.5** |
| **Wet Chemistry** | | | | | |
| Alkalinity, Total | mg $CaCO_3$/L | **1,340** | **943** | **723** | **643** |
| Sulfate | mg/L | 10 U | **43** | **40** | **34** |
| pH | -- | **7.45** | **7.47** | **8.83** | **9.36** |
| ORP | mV | **135** | **230** | **-167** | **-247** |

Notes:
ZVI = zero valent iron
mg/L = milligrams per liter
µg/L = micrograms per liter
mg $CaCO_3$/L = milligrams calcium carbonate per liter
mV = millivolts
J = indicates an estimated value
U = not detected at the indicated concentration
1. Analytical samples were collected from the second / confirmation run of the 4-foot treatment.
2. The control column did not contain ZVI.

# Figures

**Figure 1**
**ZVI Batch Test Percent Reductions for Total COCs**
Former Emerson Street Landfill
Rochester, New York




* Percent reductions are for total COCs compared to the control specific to each time point

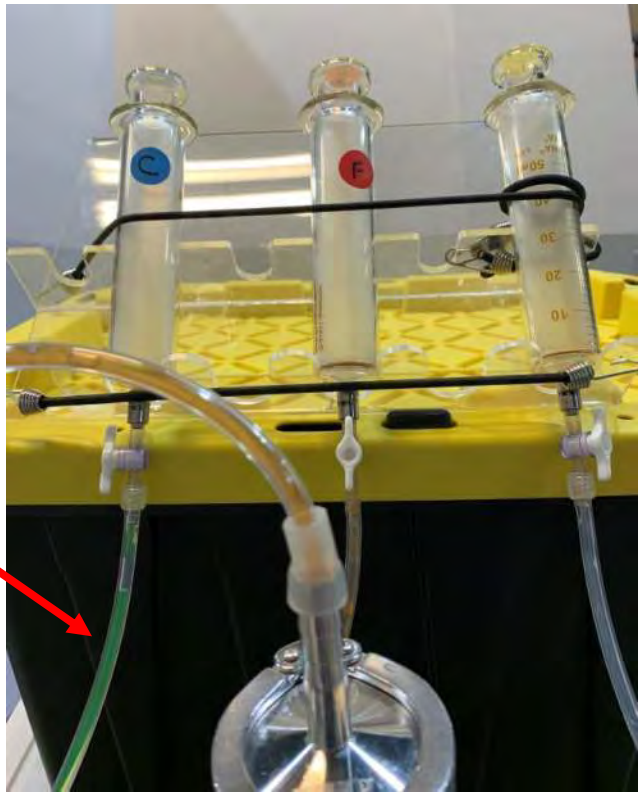
# Appendix A

## Photographs

Photo 1. ZVI Kinetics Batch Test – from left to right: Control, 1% Ferox Flow, 5% Ferox Flow, 1% Ferox Target, 5% Ferox Target, 1% eZVI, 5% eZVI

Photo 2. ZVI Column Test – Syringes, syringe pumps, column inlets

Photo 3. ZVI Column Test – 4-foot columns from left to right: Control, 5% Ferox Flow, 5% Ferox Target




Fluorescein tracer added to second pore volume of control is observed in column effluent

Photo 4. ZVI Column Test – Column outlets from left to right: Control, 5% Ferox Flow, 5% Ferox Target

# Appendix B

## Laboratory Analytical Data Reports

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L2043312 |
| Client: | XDD Environmental<br>Mary Scudieri<br>22 Marin Way Unit 3<br>Stratham, NH 03885 |
| ATTN: | Laurel Crawford |
| Phone: | (603) 778-1100 |
| Project Name: | EMERSON |
| Project Number: | 20029 |
| Report Date: | 10/14/20 |



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:** EMERSON
**Project Number:** 20029

**Lab Number:** L2043312
**Report Date:** 10/14/20

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|---|---|---|---|---|---|
| L2043312-01 | CTRL DO | WATER | ROCHESTER, NY | 10/09/20 09:00 | 10/09/20 |

| | | | |
|---|---|---|---|
| **Project Name:** | EMERSON | **Lab Number:** | L2043312 |
| **Project Number:** | 20029 | **Report Date:** | 10/14/20 |

## 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:** | EMERSON | **Lab Number:** | L2043312 |
| **Project Number:** | 20029 | **Report Date:** | 10/14/20 |

**Case Narrative (continued)**

Report Revision

October 14, 2020: The Volatile Organics reporting list has been amended to include Freon-113.

Report Submission

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

Volatile Organics

L2043312-01: The sample has elevated detection limits due to the dilution required by the sample matrix (foam).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: 10/14/20

# ORGANICS

# VOLATILES

**Project Name:** EMERSON **Lab Number:** L2043312

**Project Number:** 20029 **Report Date:** 10/14/20

**SAMPLE RESULTS**

Lab ID: L2043312-01 D
Client ID: CTRL DO
Sample Location: ROCHESTER, NY

Date Collected: 10/09/20 09:00
Date Received: 10/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/10/20 22:56
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 300 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 350 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 160 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 5.2 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 40 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 200 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 99 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 5.6 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 4.7 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** EMERSON **Lab Number:** L2043312

**Project Number:** 20029 **Report Date:** 10/14/20

## SAMPLE RESULTS

Lab ID: L2043312-01 D Date Collected: 10/09/20 09:00

Client ID: CTRL DO Date Received: 10/09/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 22 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | 14 | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 10 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 24 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 340 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 340 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 8.9 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | ND | | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** EMERSON **Lab Number:** L2043312

**Project Number:** 20029 **Report Date:** 10/14/20

## SAMPLE RESULTS

Lab ID: L2043312-01 D Date Collected: 10/09/20 09:00

Client ID: CTRL DO Date Received: 10/09/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 190 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 6.3 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 104 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 91 | | 70-130 |

**Project Name:** EMERSON **Lab Number:** L2043312

**Project Number:** 20029 **Report Date:** 10/14/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/10/20 15:37
Analyst: LAC

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1420838-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** EMERSON **Lab Number:** L2043312

**Project Number:** 20029 **Report Date:** 10/14/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/10/20 15:37
Analyst: LAC

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1420838-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** EMERSON
**Project Number:** 20029
**Lab Number:** L2043312
**Report Date:** 10/14/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/10/20 15:37
Analyst: LAC

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1420838-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 104 | | 70-130 |
| 4-Bromofluorobenzene | 110 | | 70-130 |
| Dibromofluoromethane | 91 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** EMERSON
**Project Number:** 20029

**Lab Number:** L2043312
**Report Date:** 10/14/20

| 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: WG1420838-3 WG1420838-4 | | | | | | | | |
| Methylene chloride | 92 | | 81 | | 70-130 | 13 | | 20 |
| 1,1-Dichloroethane | 93 | | 82 | | 70-130 | 13 | | 20 |
| Chloroform | 96 | | 88 | | 70-130 | 9 | | 20 |
| Carbon tetrachloride | 92 | | 85 | | 63-132 | 8 | | 20 |
| 1,2-Dichloropropane | 94 | | 87 | | 70-130 | 8 | | 20 |
| Dibromochloromethane | 110 | | 100 | | 63-130 | 10 | | 20 |
| 1,1,2-Trichloroethane | 120 | | 100 | | 70-130 | 18 | | 20 |
| Tetrachloroethene | 100 | | 91 | | 70-130 | 9 | | 20 |
| Chlorobenzene | 100 | | 99 | | 75-130 | 1 | | 20 |
| Trichlorofluoromethane | 98 | | 89 | | 62-150 | 10 | | 20 |
| 1,2-Dichloroethane | 96 | | 90 | | 70-130 | 6 | | 20 |
| 1,1,1-Trichloroethane | 93 | | 85 | | 67-130 | 9 | | 20 |
| Bromodichloromethane | 99 | | 93 | | 67-130 | 6 | | 20 |
| trans-1,3-Dichloropropene | 120 | | 110 | | 70-130 | 9 | | 20 |
| cis-1,3-Dichloropropene | 98 | | 87 | | 70-130 | 12 | | 20 |
| 1,1-Dichloropropene | 88 | | 79 | | 70-130 | 11 | | 20 |
| Bromoform | 110 | | 100 | | 54-136 | 10 | | 20 |
| 1,1,2,2-Tetrachloroethane | 120 | | 120 | | 67-130 | 0 | | 20 |
| Benzene | 93 | | 82 | | 70-130 | 13 | | 20 |
| Toluene | 110 | | 98 | | 70-130 | 12 | | 20 |
| Ethylbenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Chloromethane | **53** | Q | **49** | Q | 64-130 | 8 | | 20 |
| Bromomethane | 63 | | 58 | | 39-139 | 8 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** EMERSON
**Project Number:** 20029

**Lab Number:** L2043312
**Report Date:** 10/14/20

| 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: WG1420838-3 WG1420838-4 | | | | | | | | |
| Vinyl chloride | 77 | | 68 | | 55-140 | 12 | | 20 |
| Chloroethane | 93 | | 82 | | 55-138 | 13 | | 20 |
| 1,1-Dichloroethene | 84 | | 73 | | 61-145 | 14 | | 20 |
| trans-1,2-Dichloroethene | 90 | | 79 | | 70-130 | 13 | | 20 |
| Trichloroethene | 95 | | 88 | | 70-130 | 8 | | 20 |
| 1,2-Dichlorobenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,3-Dichlorobenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,4-Dichlorobenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Methyl tert butyl ether | 96 | | 90 | | 63-130 | 6 | | 20 |
| p/m-Xylene | 110 | | 100 | | 70-130 | 10 | | 20 |
| o-Xylene | 110 | | 100 | | 70-130 | 10 | | 20 |
| cis-1,2-Dichloroethene | 94 | | 87 | | 70-130 | 8 | | 20 |
| Dibromomethane | 89 | | 86 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichloropropane | 99 | | 96 | | 64-130 | 3 | | 20 |
| Acrylonitrile | 90 | | 82 | | 70-130 | 9 | | 20 |
| Styrene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Dichlorodifluoromethane | 59 | | 54 | | 36-147 | 9 | | 20 |
| Acetone | 95 | | 83 | | 58-148 | 13 | | 20 |
| Carbon disulfide | 89 | | 74 | | 51-130 | 18 | | 20 |
| 2-Butanone | 93 | | 88 | | 63-138 | 6 | | 20 |
| Vinyl acetate | 87 | | 84 | | 70-130 | 4 | | 20 |
| 4-Methyl-2-pentanone | 120 | | 110 | | 59-130 | 9 | | 20 |
| 2-Hexanone | 110 | | 110 | | 57-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** EMERSON
**Project Number:** 20029

**Lab Number:** L2043312
**Report Date:** 10/14/20

| 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: WG1420838-3 WG1420838-4 | | | | | | | | |
| Bromochloromethane | 92 | | 90 | | 70-130 | 2 | | 20 |
| 2,2-Dichloropropane | 100 | | 95 | | 63-133 | 5 | | 20 |
| 1,2-Dibromoethane | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,3-Dichloropropane | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,1,1,2-Tetrachloroethane | 100 | | 99 | | 64-130 | 1 | | 20 |
| Bromobenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| n-Butylbenzene | 120 | | 110 | | 53-136 | 9 | | 20 |
| sec-Butylbenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| tert-Butylbenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| o-Chlorotoluene | 120 | | 110 | | 70-130 | 9 | | 20 |
| p-Chlorotoluene | 120 | | 110 | | 70-130 | 9 | | 20 |
| 1,2-Dibromo-3-chloropropane | 100 | | 100 | | 41-144 | 0 | | 20 |
| Hexachlorobutadiene | 110 | | 110 | | 63-130 | 0 | | 20 |
| Isopropylbenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| p-Isopropyltoluene | 120 | | 100 | | 70-130 | 18 | | 20 |
| Naphthalene | 110 | | 110 | | 70-130 | 0 | | 20 |
| n-Propylbenzene | 120 | | 110 | | 69-130 | 9 | | 20 |
| 1,2,3-Trichlorobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,2,4-Trichlorobenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,3,5-Trimethylbenzene | 110 | | 110 | | 64-130 | 0 | | 20 |
| 1,2,4-Trimethylbenzene | 120 | | 110 | | 70-130 | 9 | | 20 |
| 1,4-Dioxane | 132 | | 104 | | 56-162 | **24** | Q | 20 |
| Freon-113 | 94 | | 82 | | 70-130 | 14 | | 20 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** EMERSON
**Project Number:** 20029

**Lab Number:** L2043312
**Report Date:** 10/14/20

| 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: WG1420838-3 WG1420838-4 | | | | | | | | |
| p-Diethylbenzene | 120 | | 110 | | 70-130 | 9 | | 20 |
| p-Ethyltoluene | 120 | | 110 | | 70-130 | 9 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 120 | | 110 | | 70-130 | 9 | | 20 |
| Ethyl ether | 93 | | 80 | | 59-134 | 15 | | 20 |
| trans-1,4-Dichloro-2-butene | 110 | | 110 | | 70-130 | 0 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 100 | | 70-130 |
| Toluene-d8 | 114 | | 106 | | 70-130 |
| 4-Bromofluorobenzene | 110 | | 109 | | 70-130 |
| Dibromofluoromethane | 90 | | 88 | | 70-130 |

***Project Name:*** EMERSON
***Project Number:*** 20029

***Lab Number:*** L2043312
***Report Date:*** 10/14/20

## *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(*)* |
|---|---|---|---|---|---|---|---|---|---|
| L2043312-01A | Vial HCl preserved | A | NA | | 2.3 | Y | Absent | | NYTCL-8260(14) |
| L2043312-01B | Vial HCl preserved | A | NA | | 2.3 | Y | Absent | | NYTCL-8260(14) |
| L2043312-01C | Vial HCl preserved | A | NA | | 2.3 | Y | Absent | | NYTCL-8260(14) |



*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | EMERSON | **Lab Number:** | L2043312 |
| **Project Number:** | 20029 | **Report Date:** | 10/14/20 |

## GLOSSARY

***Acronyms***

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | EMERSON | **Lab Number:** | L2043312 |
| **Project Number:** | 20029 | **Report Date:** | 10/14/20 |

***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.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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.

**F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

**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

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | EMERSON | **Lab Number:** | L2043312 |
| **Project Number:** | 20029 | **Report Date:** | 10/14/20 |

***Data Qualifiers***

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.

**Project Name:** EMERSON **Lab Number:** L2043312

**Project Number:** 20029 **Report Date:** 10/14/20

## REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

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

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

# Certification Information

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

**Westborough Facility**
**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene
**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.
**EPA TO-12** Non-methane organics
**EPA 3C** Fixed gases
**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.

# CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 10/9/20

ALPHA Job #: L2013312

ALPHA Analytical
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

**Client Information**

Client: XDD

Address: 22 Manning Way #3, Strafford, NH 03885

Phone: 603-778-1100

Email: Lcrawford@xdd-llc.com

Additional Project Information:
Send invoices to: ap@xdd-llc.com

**Project Information**

Project Name: Emerson

Project Location: Rochester, N.Y.

Project #: 20029

Project Manager: Laurel Crawford

ALPHA Quote #:

**Turn-Around Time**

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

Date Due: 1-day (10/12/20)

**Report Information - Data Deliverables**

☐ ADEx ☒ EMAIL

**Billing Information**

☐ Same as Client info PO #: 4697

**Regulatory Requirements & Project Information Requirements**

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program NYSDOH ELAP Criteria

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler Initials | ANALYSIS: VOC: ☒ 8260 ☐ 624 ☐ 524.2 | SVOC: ☐ ABN ☐ PAH | METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15 | METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13 | EPH: ☐ Ranges & Targets ☐ Ranges Only | VPH: ☐ Ranges & Targets ☐ Ranges Only | ☐ PCB ☐ PEST | TPH: ☐ Quant Only ☐ Fingerprint | SAMPLE INFO: Filtration ☐ Field ☐ Lab to do; Preservation ☐ Lab to do | Sample Comments | TOTAL # BOTTLES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L3312 01 | Ctrl DO | 10/7/20 | 900 | GW | LC | X | | | | | | | | | | |

| | |
|---|---|
| Container Type | G |
| Preservative | B |

**Container Type**
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

**Preservative**
A= None
B= HCl
C= $HNO_3$
D= $H_2SO_4$
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = $NH_4Cl$
K= Zn Acetate
O= Other

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 10/9/20 1459 | [signature] DayStar | 10/9/20 1459 |
| [signature] DayStar | 10/9/20 1930 | [signature] AAC | 10/9/20 1430 |

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L2043588 |
| Client: | XDD Environmental<br>Mary Scudieri<br>22 Marin Way Unit 3<br>Stratham, NH 03885 |
| ATTN: | Laurel Crawford |
| Phone: | (603) 778-1100 |
| Project Name: | FESL |
| Project Number: | 20029 |
| Report Date: | 10/23/20 |



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:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|---|---|---|---|---|---|
| L2043588-01 | CTRL D0 | WATER | ROCHESTER, NY | 10/12/20 10:00 | 10/12/20 |
| L2043588-02 | CTRL D0 DUP | WATER | ROCHESTER, NY | 10/12/20 10:07 | 10/12/20 |

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2043588 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

## 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:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

**Case Narrative (continued)**

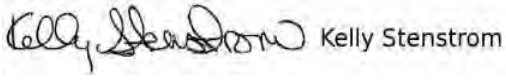
Report Submission

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

Sample Receipt

L2043588-02: The collection date and time on the chain of custody was 12-OCT-20 10:07; however, the collection date/time on the container label was 12-OCT-20 10:10. At the client's request, the collection date/time is reported as 12-OCT-20 10:07.

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: 10/23/20

# ORGANICS

# VOLATILES

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2043588-01
Client ID: CTRL D0
Sample Location: ROCHESTER, NY

Date Collected: 10/12/20 10:00
Date Received: 10/12/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 10/14/20 21:08
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Dissolved Gases by GC - Mansfield Lab** | | | | | | | |
| Methane | 1400 | | ug/l | 2.00 | 2.00 | 1 | A |
| Ethene | 133 | | ug/l | 0.500 | 0.500 | 1 | A |
| Ethane | 8.48 | | ug/l | 0.500 | 0.500 | 1 | A |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2043588-02
Client ID: CTRL D0 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/12/20 10:07
Date Received: 10/12/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 10/14/20 21:24
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Dissolved Gases by GC - Mansfield Lab** | | | | | | | |
| Methane | 1300 | | ug/l | 2.00 | 2.00 | 1 | A |
| Ethene | 112 | | ug/l | 0.500 | 0.500 | 1 | A |
| Ethane | 7.38 | | ug/l | 0.500 | 0.500 | 1 | A |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2043588
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2043588-02 D
Client ID: CTRL D0 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/12/20 10:07
Date Received: 10/12/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/22/20 03:01
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethane | 380 | | ug/l | 6.2 | 1.8 | 2.5 |
| Chloroform | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Carbon tetrachloride | ND | | ug/l | 1.2 | 0.34 | 2.5 |
| 1,2-Dichloropropane | ND | | ug/l | 2.5 | 0.34 | 2.5 |
| Dibromochloromethane | ND | | ug/l | 1.2 | 0.37 | 2.5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 3.8 | 1.2 | 2.5 |
| Tetrachloroethene | 440 | | ug/l | 1.2 | 0.45 | 2.5 |
| Chlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Trichlorofluoromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethane | ND | | ug/l | 1.2 | 0.33 | 2.5 |
| 1,1,1-Trichloroethane | 170 | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromodichloromethane | ND | | ug/l | 1.2 | 0.48 | 2.5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.41 | 2.5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,1-Dichloropropene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromoform | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.2 | 0.42 | 2.5 |
| Benzene | 5.6 | | ug/l | 1.2 | 0.40 | 2.5 |
| Toluene | 31 | | ug/l | 6.2 | 1.8 | 2.5 |
| Ethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Chloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromomethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Vinyl chloride | 300 | | ug/l | 2.5 | 0.18 | 2.5 |
| Chloroethane | 170 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethene | 6.3 | | ug/l | 1.2 | 0.42 | 2.5 |
| trans-1,2-Dichloroethene | 5.8 | J | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2043588

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2043588-02 D
Client ID: CTRL D0 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/12/20 10:07
Date Received: 10/12/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 25 | | ug/l | 1.2 | 0.44 | 2.5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Methyl tert butyl ether | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p/m-Xylene | 8.2 | | ug/l | 6.2 | 1.8 | 2.5 |
| o-Xylene | 9.4 | | ug/l | 6.2 | 1.8 | 2.5 |
| Xylenes, Total | 18 | | ug/l | 6.2 | 1.8 | 2.5 |
| cis-1,2-Dichloroethene | 410 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethene, Total | 420 | J | ug/l | 6.2 | 1.8 | 2.5 |
| Dibromomethane | ND | | ug/l | 12 | 2.5 | 2.5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Acrylonitrile | ND | | ug/l | 12 | 3.8 | 2.5 |
| Styrene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Dichlorodifluoromethane | ND | | ug/l | 12 | 2.5 | 2.5 |
| Acetone | 8.3 | J | ug/l | 12 | 3.6 | 2.5 |
| Carbon disulfide | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Butanone | ND | | ug/l | 12 | 4.8 | 2.5 |
| Vinyl acetate | ND | | ug/l | 12 | 2.5 | 2.5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Hexanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| Bromochloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 2,2-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromoethane | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,3-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| n-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| sec-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| tert-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| o-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Hexachlorobutadiene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Isopropylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Isopropyltoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Naphthalene | 2.6 | J | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2043588

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2043588-02 D
Client ID: CTRL D0 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/12/20 10:07
Date Received: 10/12/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dioxane | ND | | ug/l | 620 | 150 | 2.5 |
| Freon-113 | 160 | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Diethylbenzene | ND | | ug/l | 5.0 | 1.8 | 2.5 |
| p-Ethyltoluene | ND | | ug/l | 5.0 | 1.8 | 2.5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 5.0 | 1.4 | 2.5 |
| Ethyl ether | 9.2 | | ug/l | 6.2 | 1.8 | 2.5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 117,-
Analytical Date: 10/14/20 11:19
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | |
|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab for sample(s): 01-02 Batch: WG1421485-3 | | | | | | |
| Methane | ND | | ug/l | 2.00 | 2.00 | A |
| Ethene | ND | | ug/l | 0.500 | 0.500 | A |
| Ethane | ND | | ug/l | 0.500 | 0.500 | A |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2043588
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/21/20 20:49
Analyst: KJD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1425217-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/21/20 20:49
Analyst: KJD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1425217-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2043588
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/21/20 20:49
Analyst: KJD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1425217-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL

**Project Number:** 20029

**Lab Number:** L2043588

**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|---|---|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01-02 Batch: WG1421485-2 | | | | | | | | | |
| Methane | 102 | | - | | 80-120 | - | | 25 | A |
| Ethene | 91 | | - | | 80-120 | - | | 25 | A |
| Ethane | 91 | | - | | 80-120 | - | | 25 | A |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

| 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: WG1425217-3 WG1425217-4 | | | | | | | | |
| Methylene chloride | 93 | | 96 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 97 | | 99 | | 70-130 | 2 | | 20 |
| Chloroform | 91 | | 92 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 93 | | 94 | | 63-132 | 1 | | 20 |
| 1,2-Dichloropropane | 98 | | 98 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 81 | | 86 | | 63-130 | 6 | | 20 |
| 1,1,2-Trichloroethane | 88 | | 94 | | 70-130 | 7 | | 20 |
| Tetrachloroethene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Chlorobenzene | 91 | | 93 | | 75-130 | 2 | | 20 |
| Trichlorofluoromethane | 120 | | 120 | | 62-150 | 0 | | 20 |
| 1,2-Dichloroethane | 91 | | 94 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 92 | | 92 | | 67-130 | 0 | | 20 |
| Bromodichloromethane | 89 | | 92 | | 67-130 | 3 | | 20 |
| trans-1,3-Dichloropropene | 78 | | 80 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 89 | | 90 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 97 | | 100 | | 70-130 | 3 | | 20 |
| Bromoform | 88 | | 91 | | 54-136 | 3 | | 20 |
| 1,1,2,2-Tetrachloroethane | 90 | | 94 | | 67-130 | 4 | | 20 |
| Benzene | 96 | | 98 | | 70-130 | 2 | | 20 |
| Toluene | 96 | | 98 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 92 | | 95 | | 70-130 | 3 | | 20 |
| Chloromethane | 110 | | 120 | | 64-130 | 9 | | 20 |
| Bromomethane | 92 | | 93 | | 39-139 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

| 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: WG1425217-3 WG1425217-4 | | | | | | | | |
| Vinyl chloride | 120 | | 120 | | 55-140 | 0 | | 20 |
| Chloroethane | 120 | | 130 | | 55-138 | 8 | | 20 |
| 1,1-Dichloroethene | 85 | | 87 | | 61-145 | 2 | | 20 |
| trans-1,2-Dichloroethene | 97 | | 99 | | 70-130 | 2 | | 20 |
| Trichloroethene | 91 | | 92 | | 70-130 | 1 | | 20 |
| 1,2-Dichlorobenzene | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 96 | | 100 | | 70-130 | 4 | | 20 |
| 1,4-Dichlorobenzene | 97 | | 100 | | 70-130 | 3 | | 20 |
| Methyl tert butyl ether | 79 | | 74 | | 63-130 | 7 | | 20 |
| p/m-Xylene | 90 | | 95 | | 70-130 | 5 | | 20 |
| o-Xylene | 90 | | 95 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 97 | | 93 | | 70-130 | 4 | | 20 |
| Dibromomethane | 90 | | 95 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichloropropane | 89 | | 92 | | 64-130 | 3 | | 20 |
| Acrylonitrile | 88 | | 90 | | 70-130 | 2 | | 20 |
| Styrene | 90 | | 90 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 140 | | 140 | | 36-147 | 0 | | 20 |
| Acetone | 83 | | 88 | | 58-148 | 6 | | 20 |
| Carbon disulfide | 96 | | 98 | | 51-130 | 2 | | 20 |
| 2-Butanone | 83 | | 81 | | 63-138 | 2 | | 20 |
| Vinyl acetate | 88 | | 89 | | 70-130 | 1 | | 20 |
| 4-Methyl-2-pentanone | 84 | | 91 | | 59-130 | 8 | | 20 |
| 2-Hexanone | 81 | | 87 | | 57-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

| 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: WG1425217-3 WG1425217-4 | | | | | | | | |
| Bromochloromethane | 92 | | 96 | | 70-130 | 4 | | 20 |
| 2,2-Dichloropropane | 100 | | 100 | | 63-133 | 0 | | 20 |
| 1,2-Dibromoethane | 88 | | 92 | | 70-130 | 4 | | 20 |
| 1,3-Dichloropropane | 130 | | 130 | | 70-130 | 0 | | 20 |
| 1,1,1,2-Tetrachloroethane | 89 | | 90 | | 64-130 | 1 | | 20 |
| Bromobenzene | 98 | | 100 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 91 | | 91 | | 53-136 | 0 | | 20 |
| sec-Butylbenzene | 96 | | 98 | | 70-130 | 2 | | 20 |
| tert-Butylbenzene | 94 | | 95 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 96 | | 98 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 96 | | 97 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | 87 | | 93 | | 41-144 | 7 | | 20 |
| Hexachlorobutadiene | 100 | | 110 | | 63-130 | 10 | | 20 |
| Isopropylbenzene | 99 | | 100 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 93 | | 92 | | 70-130 | 1 | | 20 |
| Naphthalene | 76 | | 83 | | 70-130 | 9 | | 20 |
| n-Propylbenzene | 96 | | 98 | | 69-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 92 | | 98 | | 70-130 | 6 | | 20 |
| 1,2,4-Trichlorobenzene | 95 | | 98 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 96 | | 99 | | 64-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 97 | | 98 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | 74 | | 76 | | 56-162 | 3 | | 20 |
| Freon-113 | 97 | | 99 | | 70-130 | 2 | | 20 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL

**Project Number:** 20029

**Lab Number:** L2043588

**Report Date:** 10/23/20

| 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: WG1425217-3 WG1425217-4 | | | | | | | | |
| p-Diethylbenzene | 91 | | 90 | | 70-130 | 1 | | 20 |
| p-Ethyltoluene | 99 | | 100 | | 70-130 | 1 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 86 | | 87 | | 70-130 | 1 | | 20 |
| Ethyl ether | 100 | | 110 | | 59-134 | 10 | | 20 |
| trans-1,4-Dichloro-2-butene | **48** | Q | **44** | Q | 70-130 | 9 | | 20 |

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

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2043588-01
Client ID: CTRL D0
Sample Location: ROCHESTER, NY

Date Collected: 10/12/20 10:00
Date Received: 10/12/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Alkalinity, Total | 1190 | | mg CaCO3/L | 5.00 | NA | 2.5 | - | 10/15/20 02:08 | 121,2320B | JA |
| Sulfate | ND | | mg/l | 10 | 1.4 | 1 | 10/14/20 15:16 | 10/14/20 15:16 | 1,9038 | MV |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2043588-02
Client ID: CTRL D0 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/12/20 10:07
Date Received: 10/12/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Alkalinity, Total | 1190 | | mg CaCO3/L | 5.00 | NA | 2.5 | - | 10/15/20 02:08 | 121,2320B | JA |
| Sulfate | ND | | mg/l | 10 | 1.4 | 1 | 10/14/20 15:16 | 10/14/20 15:16 | 1,9038 | MV |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1421875-1 | | | | | | | | | | |
| Sulfate | 1.6 | J | mg/l | 10 | 1.4 | 1 | 10/14/20 15:16 | 10/14/20 15:16 | 1,9038 | MV |
| General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1422243-1 | | | | | | | | | | |
| Alkalinity, Total | ND | | mg CaCO3/L | 2.00 | NA | 1 | - | 10/15/20 02:08 | 121,2320B | JA |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1421875-2 | | | | | | | | |
| Sulfate | 95 | | - | | 90-110 | - | | |
| General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1422243-2 | | | | | | | | |
| Alkalinity, Total | 104 | | - | | 90-110 | - | | 10 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1421875-4 QC Sample: L2043930-01 Client ID: MS Sample | | | | | | | | | | | | |
| Sulfate | 22. | 50 | 73 | 102 | | - | - | | 55-147 | - | | 14 |
| General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1422243-4 QC Sample: L2044213-02 Client ID: MS Sample | | | | | | | | | | | | |
| Alkalinity, Total | 34.5 | 100 | 138 | 104 | | - | - | | 86-116 | - | | 10 |

# Lab Duplicate Analysis
*Batch Quality Control*

**Project Name:** FESL
**Project Number:** 20029

***Lab Number:*** L2043588
***Report Date:*** 10/23/20

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1421875-3 QC Sample: L2043930-01 Client ID: DUP Sample | | | | | | |
| Sulfate | 22. | 23 | mg/l | 4 | | 14 |
| General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1422243-3 QC Sample: L2044213-01 Client ID: DUP Sample | | | | | | |
| Alkalinity, Total | 6.40 | 6.50 | mg CaCO3/L | 2 | | 10 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2043588
**Report Date:** 10/23/20

## 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(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2043588-01A | 20ml Vial HCl preserved | A | NA | | 4.6 | Y | Absent | | DISSGAS(14) |
| L2043588-01B | 20ml Vial HCl preserved | A | NA | | 4.6 | Y | Absent | | DISSGAS(14) |
| L2043588-01C | Plastic 60ml unpreserved | A | 7 | 7 | 4.6 | Y | Absent | | SO4-9038(28) |
| L2043588-01D | Plastic 250ml unpreserved/No Headspace | A | NA | | 4.6 | Y | Absent | | ALK-T-2320(14) |
| L2043588-02A | Vial HCl preserved | A | NA | | 4.6 | Y | Absent | | NYTCL-8260(14) |
| L2043588-02B | Vial HCl preserved | A | NA | | 4.6 | Y | Absent | | NYTCL-8260(14) |
| L2043588-02C | Vial HCl preserved | A | NA | | 4.6 | Y | Absent | | NYTCL-8260(14) |
| L2043588-02D | 20ml Vial HCl preserved | A | NA | | 4.6 | Y | Absent | | DISSGAS(14) |
| L2043588-02E | 20ml Vial HCl preserved | A | NA | | 4.6 | Y | Absent | | DISSGAS(14) |
| L2043588-02F | Plastic 60ml unpreserved | A | 7 | 7 | 4.6 | Y | Absent | | SO4-9038(28) |
| L2043588-02G | Plastic 250ml unpreserved/No Headspace | A | NA | | 4.6 | Y | Absent | | ALK-T-2320(14) |



*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2043588 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

## GLOSSARY

***Acronyms***

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2043588 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

***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.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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.

**F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

**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

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2043588 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

***Data Qualifiers***

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.

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2043588 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

## REFERENCES


1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

117 Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, EPA-NE, Revision 1, February 21, 2002 and Sample Preparation & Calculations for Dissolved Gas Analysis in Water Samples using a GC Headspace Equilibration Technique, EPA RSKSOP-175, Revision 2, May 2004.

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


## LIMITATION OF LIABILITIES

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

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

# Certification Information

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

**Westborough Facility**
**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene
**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.
**EPA TO-12** Non-methane organics
**EPA 3C** Fixed gases
**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.

ALPHA ANALYTICAL

# NEW JERSEY 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: 10/12/20

ALPHA Job #: L2043588

## Client Information

Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

## Project Information

Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #:

## Turn-Around Time

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

## Deliverables

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

## Billing Information

☒ Same as Client Info
PO # 4697

## Regulatory Requirement

☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☑ Other NYSDOH ELAP

## Site Information

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

These samples have been previously analyzed by Alpha ☐

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

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

**Other project specific requirements/comments:**
Invoices go to ap@xdd-LLC.com
~~Please specify Metals or TAL.~~

## ANALYSIS

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs | Dissolved Gases | Alkalinity | Sulfate | | | | | Sample Specific Comments | Total Bottles |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43588-01 | Ctrl D0 | 10/12/2020 | 10:00 | GW | LC | | x | x | x | | | | | | 4 |
| -02 | Ctrl D0 dup | 10/12/2020 | 10:07 | GW | LC | x | x | x | x | | | | | | 7 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | |
| Container Type | | | | | | G | G | P | P | | | | | | |
| Preservative | | | | | | B | B | A | A | | | | | | |

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

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

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

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

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [illegible] | 10/12/20 1345 | [illegible] | 10/12/20 1345 |
| Rob Maestro | 10/12/20 2130 | | 10/12/20 21:30 |

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

Form No: 01-14 (rev. 30-Sept-2013)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L2044697 |
| Client: | XDD Environmental<br>Mary Scudieri<br>22 Marin Way Unit 3<br>Stratham, NH 03885 |
| ATTN: | Laurel Crawford |
| Phone: | (603) 778-1100 |
| Project Name: | FESL |
| Project Number: | 20029 |
| Report Date: | 10/29/20 |



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:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|---|---|---|---|---|---|
| L2044697-01 | FLOW LO 0.5 | WATER | ROCHESTER, NY | 10/15/20 08:10 | 10/16/20 |
| L2044697-02 | FLOW HI 0.5 | WATER | ROCHESTER, NY | 10/15/20 08:15 | 10/16/20 |
| L2044697-03 | TARGET LO 0.5 | WATER | ROCHESTER, NY | 10/15/20 08:20 | 10/16/20 |
| L2044697-04 | TARGET HIGH 0.5 | WATER | ROCHESTER, NY | 10/15/20 08:25 | 10/16/20 |
| L2044697-05 | EZVI LO 0.5 | WATER | ROCHESTER, NY | 10/15/20 08:30 | 10/16/20 |
| L2044697-06 | EZVI HI 0.5 | WATER | ROCHESTER, NY | 10/15/20 08:35 | 10/16/20 |
| L2044697-07 | CTRL 0.5 | WATER | ROCHESTER, NY | 10/15/20 08:40 | 10/16/20 |
| L2044697-08 | CTRL 0.5 DUP | WATER | ROCHESTER, NY | 10/15/20 08:45 | 10/16/20 |
| L2044697-09 | CTRL D0 DUP 2 | WATER | ROCHESTER, NY | 10/14/20 12:00 | 10/16/20 |
| L2044697-10 | FLOW LO D1 | WATER | ROCHESTER, NY | 10/15/20 14:00 | 10/16/20 |
| L2044697-11 | FLOW HI D1 | WATER | ROCHESTER, NY | 10/15/20 14:05 | 10/16/20 |
| L2044697-12 | TAGRET LO D1 | WATER | ROCHESTER, NY | 10/15/20 14:10 | 10/16/20 |
| L2044697-13 | TAGRET HI D1 | WATER | ROCHESTER, NY | 10/15/20 14:15 | 10/16/20 |
| L2044697-14 | EZVI LO D1 | WATER | ROCHESTER, NY | 10/15/20 14:20 | 10/16/20 |
| L2044697-15 | EZVI HI D1 | WATER | ROCHESTER, NY | 10/15/20 14:25 | 10/16/20 |
| L2044697-16 | CTRL D1 | WATER | ROCHESTER, NY | 10/15/20 14:30 | 10/16/20 |
| L2044697-17 | CTRL D1 DUP | WATER | ROCHESTER, NY | 10/15/20 14:35 | 10/16/20 |
| L2044697-18 | FLOW LO D2 | WATER | ROCHESTER, NY | 10/16/20 12:30 | 10/16/20 |
| L2044697-19 | FLOW HI D2 | WATER | ROCHESTER, NY | 10/16/20 12:35 | 10/16/20 |
| L2044697-20 | TARGET LO D2 | WATER | ROCHESTER, NY | 10/16/20 12:40 | 10/16/20 |
| L2044697-21 | TARGET HI D2 | WATER | ROCHESTER, NY | 10/16/20 12:45 | 10/16/20 |
| L2044697-22 | EZVI LO D2 | WATER | ROCHESTER, NY | 10/16/20 12:50 | 10/16/20 |
| L2044697-23 | EZVI HI D2 | WATER | ROCHESTER, NY | 10/16/20 12:55 | 10/16/20 |
| L2044697-24 | CTRL D2 | WATER | ROCHESTER, NY | 10/16/20 13:00 | 10/16/20 |

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|---|---|---|---|---|---|
| L2044697-25 | CTRL D2 DUP | WATER | ROCHESTER, NY | 10/16/20 13:05 | 10/16/20 |

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2044697 |
| **Project Number:** | 20029 | **Report Date:** | 10/29/20 |

## 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:** | FESL | **Lab Number:** | L2044697 |
| **Project Number:** | 20029 | **Report Date:** | 10/29/20 |

**Case Narrative (continued)**

Report Submission

October 29, 2020: This final report includes the results of all requested analyses.

October 20, 2020: 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

L2044697-01, -05, -06, -09, -14, and -15 were received in the proper acid-preserved containers; however, upon analysis, the pH was determined to be greater than 2, and thus the method required holding time was exceeded.

L2044697-03, -05, -06, -07, -14, -15, -22, and -23: The sample has elevated detection limits due to the dilution required by the sample matrix.

L2044697-10: Headspace was noted in the sample container utilized for analysis.

L2044697-17: Due to minimal sample volume received, the analysis was performed utilizing a compromised vial.

L2044697-22 and -23: The pH of the sample was greater than two; however, the sample was analyzed within the method required holding time.

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: 10/29/20

# ORGANICS

# VOLATILES

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-01 D
Client ID: FLOW LO 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:10
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/26/20 21:46
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 560 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 130 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 220 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 5.2 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 18 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 360 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 180 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 5.8 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 6.4 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-01 D Date Collected: 10/15/20 08:10

Client ID: FLOW LO 0.5 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 19 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 4.8 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 4.8 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 560 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 570 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 29 | | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 13 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-01 D Date Collected: 10/15/20 08:10

Client ID: FLOW LO 0.5 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 79 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 9.6 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-02 D
Client ID: FLOW HI 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:15
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/26/20 22:09
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 610 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 110 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 210 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 5.6 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 18 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 400 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 200 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 6.2 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 6.4 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-02 D
Client ID: FLOW HI 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:15
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 19 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 4.2 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 4.2 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 600 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 610 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 30 | | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 14 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-02 D
Client ID: FLOW HI 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:15
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 97 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 10 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2044697-03 D
Client ID: TARGET LO 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:20
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/26/20 22:32
Analyst: NLK

| 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 | 610 | | 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 | 140 | | 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 | 150 | | 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 5.0 | 1.4 | 10 |
| 1,1-Dichloropropene | ND | | ug/l | 25 | 7.0 | 10 |
| Bromoform | ND | | ug/l | 20 | 6.5 | 10 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 5.0 | 1.7 | 10 |
| Benzene | 6.5 | | ug/l | 5.0 | 1.6 | 10 |
| Toluene | 20 | J | ug/l | 25 | 7.0 | 10 |
| Ethylbenzene | ND | | ug/l | 25 | 7.0 | 10 |
| Chloromethane | ND | | ug/l | 25 | 7.0 | 10 |
| Bromomethane | ND | | ug/l | 25 | 7.0 | 10 |
| Vinyl chloride | 410 | | ug/l | 10 | 0.71 | 10 |
| Chloroethane | 190 | | ug/l | 25 | 7.0 | 10 |
| 1,1-Dichloroethene | 7.0 | | ug/l | 5.0 | 1.7 | 10 |
| trans-1,2-Dichloroethene | ND | | ug/l | 25 | 7.0 | 10 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2044697-03 D
Client ID: TARGET LO 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:20
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 20 | | ug/l | 5.0 | 1.8 | 10 |
| 1,2-Dichlorobenzene | ND | | ug/l | 25 | 7.0 | 10 |
| 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 | ND | | ug/l | 25 | 7.0 | 10 |
| o-Xylene | ND | | ug/l | 25 | 7.0 | 10 |
| Xylenes, Total | ND | | ug/l | 25 | 7.0 | 10 |
| cis-1,2-Dichloroethene | 600 | | ug/l | 25 | 7.0 | 10 |
| 1,2-Dichloroethene, Total | 600 | | ug/l | 25 | 7.0 | 10 |
| Dibromomethane | ND | | ug/l | 50 | 10. | 10 |
| 1,2,3-Trichloropropane | ND | | ug/l | 25 | 7.0 | 10 |
| Acrylonitrile | ND | | ug/l | 50 | 15. | 10 |
| Styrene | ND | | ug/l | 25 | 7.0 | 10 |
| Dichlorodifluoromethane | ND | | ug/l | 50 | 10. | 10 |
| Acetone | 30 | J | ug/l | 50 | 15. | 10 |
| Carbon disulfide | ND | | ug/l | 50 | 10. | 10 |
| 2-Butanone | ND | | ug/l | 50 | 19. | 10 |
| Vinyl acetate | ND | | ug/l | 50 | 10. | 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 |
| 2,2-Dichloropropane | ND | | ug/l | 25 | 7.0 | 10 |
| 1,2-Dibromoethane | ND | | ug/l | 20 | 6.5 | 10 |
| 1,3-Dichloropropane | ND | | ug/l | 25 | 7.0 | 10 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 25 | 7.0 | 10 |
| Bromobenzene | ND | | ug/l | 25 | 7.0 | 10 |
| n-Butylbenzene | ND | | ug/l | 25 | 7.0 | 10 |
| sec-Butylbenzene | ND | | ug/l | 25 | 7.0 | 10 |
| tert-Butylbenzene | ND | | ug/l | 25 | 7.0 | 10 |
| o-Chlorotoluene | ND | | ug/l | 25 | 7.0 | 10 |
| p-Chlorotoluene | ND | | ug/l | 25 | 7.0 | 10 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 25 | 7.0 | 10 |
| Hexachlorobutadiene | ND | | ug/l | 25 | 7.0 | 10 |
| Isopropylbenzene | ND | | ug/l | 25 | 7.0 | 10 |
| p-Isopropyltoluene | ND | | ug/l | 25 | 7.0 | 10 |
| Naphthalene | ND | | ug/l | 25 | 7.0 | 10 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2044697-03 D Date Collected: 10/15/20 08:20

Client ID: TARGET LO 0.5 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | 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 | ND | | ug/l | 25 | 7.0 | 10 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 25 | 7.0 | 10 |
| 1,4-Dioxane | ND | | ug/l | 2500 | 610 | 10 |
| Freon-113 | 100 | | ug/l | 25 | 7.0 | 10 |
| p-Diethylbenzene | ND | | ug/l | 20 | 7.0 | 10 |
| p-Ethyltoluene | ND | | ug/l | 20 | 7.0 | 10 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 20 | 5.4 | 10 |
| Ethyl ether | 9.7 | J | ug/l | 25 | 7.0 | 10 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 25 | 7.0 | 10 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-04 D
Client ID: TARGET HIGH 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:25
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/26/20 22:56
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 640 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 110 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 120 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 7.5 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 21 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 420 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 210 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 6.2 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 6.7 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-04 D
Client ID: TARGET HIGH 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:25
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 19 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 5.2 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 5.2 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 620 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 630 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 31 | | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 17 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-04 D
Client ID: TARGET HIGH 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:25
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 80 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 11 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2044697-05 D
Client ID: EZVI LO 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:30
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/27/20 02:01
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 250 | 70. | 100 |
| 1,1-Dichloroethane | 620 | | ug/l | 250 | 70. | 100 |
| Chloroform | ND | | ug/l | 250 | 70. | 100 |
| Carbon tetrachloride | ND | | ug/l | 50 | 13. | 100 |
| 1,2-Dichloropropane | ND | | ug/l | 100 | 14. | 100 |
| Dibromochloromethane | ND | | ug/l | 50 | 15. | 100 |
| 1,1,2-Trichloroethane | ND | | ug/l | 150 | 50. | 100 |
| Tetrachloroethene | 220 | | ug/l | 50 | 18. | 100 |
| Chlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| Trichlorofluoromethane | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dichloroethane | ND | | ug/l | 50 | 13. | 100 |
| 1,1,1-Trichloroethane | 220 | J | ug/l | 250 | 70. | 100 |
| Bromodichloromethane | ND | | ug/l | 50 | 19. | 100 |
| trans-1,3-Dichloropropene | ND | | ug/l | 50 | 16. | 100 |
| cis-1,3-Dichloropropene | ND | | ug/l | 50 | 14. | 100 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 50 | 14. | 100 |
| 1,1-Dichloropropene | ND | | ug/l | 250 | 70. | 100 |
| Bromoform | ND | | ug/l | 200 | 65. | 100 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 50 | 17. | 100 |
| Benzene | ND | | ug/l | 50 | 16. | 100 |
| Toluene | ND | | ug/l | 250 | 70. | 100 |
| Ethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| Chloromethane | ND | | ug/l | 250 | 70. | 100 |
| Bromomethane | ND | | ug/l | 250 | 70. | 100 |
| Vinyl chloride | 460 | | ug/l | 100 | 7.1 | 100 |
| Chloroethane | 190 | J | ug/l | 250 | 70. | 100 |
| 1,1-Dichloroethene | ND | | ug/l | 50 | 17. | 100 |
| trans-1,2-Dichloroethene | ND | | ug/l | 250 | 70. | 100 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2044697-05 D
Client ID: EZVI LO 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:30
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 30 | J | ug/l | 50 | 18. | 100 |
| 1,2-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,3-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,4-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| Methyl tert butyl ether | ND | | ug/l | 250 | 70. | 100 |
| p/m-Xylene | ND | | ug/l | 250 | 70. | 100 |
| o-Xylene | ND | | ug/l | 250 | 70. | 100 |
| Xylenes, Total | ND | | ug/l | 250 | 70. | 100 |
| cis-1,2-Dichloroethene | 640 | | ug/l | 250 | 70. | 100 |
| 1,2-Dichloroethene, Total | 640 | | ug/l | 250 | 70. | 100 |
| Dibromomethane | ND | | ug/l | 500 | 100 | 100 |
| 1,2,3-Trichloropropane | ND | | ug/l | 250 | 70. | 100 |
| Acrylonitrile | ND | | ug/l | 500 | 150 | 100 |
| Styrene | ND | | ug/l | 250 | 70. | 100 |
| Dichlorodifluoromethane | ND | | ug/l | 500 | 100 | 100 |
| Acetone | ND | | ug/l | 500 | 150 | 100 |
| Carbon disulfide | ND | | ug/l | 500 | 100 | 100 |
| 2-Butanone | 300 | J | ug/l | 500 | 190 | 100 |
| Vinyl acetate | ND | | ug/l | 500 | 100 | 100 |
| 4-Methyl-2-pentanone | ND | | ug/l | 500 | 100 | 100 |
| 2-Hexanone | ND | | ug/l | 500 | 100 | 100 |
| Bromochloromethane | ND | | ug/l | 250 | 70. | 100 |
| 2,2-Dichloropropane | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dibromoethane | ND | | ug/l | 200 | 65. | 100 |
| 1,3-Dichloropropane | ND | | ug/l | 250 | 70. | 100 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 250 | 70. | 100 |
| Bromobenzene | ND | | ug/l | 250 | 70. | 100 |
| n-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| sec-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| tert-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| o-Chlorotoluene | ND | | ug/l | 250 | 70. | 100 |
| p-Chlorotoluene | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 250 | 70. | 100 |
| Hexachlorobutadiene | ND | | ug/l | 250 | 70. | 100 |
| Isopropylbenzene | ND | | ug/l | 250 | 70. | 100 |
| p-Isopropyltoluene | ND | | ug/l | 250 | 70. | 100 |
| Naphthalene | ND | | ug/l | 250 | 70. | 100 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-05 D Date Collected: 10/15/20 08:30

Client ID: EZVI LO 0.5 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,4-Dioxane | ND | | ug/l | 25000 | 6100 | 100 |
| Freon-113 | 300 | | ug/l | 250 | 70. | 100 |
| p-Diethylbenzene | ND | | ug/l | 200 | 70. | 100 |
| p-Ethyltoluene | ND | | ug/l | 200 | 70. | 100 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 200 | 54. | 100 |
| Ethyl ether | ND | | ug/l | 250 | 70. | 100 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 250 | 70. | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2044697-06 D
Client ID: EZVI HI 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:35
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/27/20 02:24
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 100 | 28. | 40 |
| 1,1-Dichloroethane | 290 | | ug/l | 100 | 28. | 40 |
| Chloroform | ND | | ug/l | 100 | 28. | 40 |
| Carbon tetrachloride | ND | | ug/l | 20 | 5.4 | 40 |
| 1,2-Dichloropropane | ND | | ug/l | 40 | 5.5 | 40 |
| Dibromochloromethane | ND | | ug/l | 20 | 6.0 | 40 |
| 1,1,2-Trichloroethane | ND | | ug/l | 60 | 20. | 40 |
| Tetrachloroethene | 40 | | ug/l | 20 | 7.2 | 40 |
| Chlorobenzene | ND | | ug/l | 100 | 28. | 40 |
| Trichlorofluoromethane | ND | | ug/l | 100 | 28. | 40 |
| 1,2-Dichloroethane | ND | | ug/l | 20 | 5.3 | 40 |
| 1,1,1-Trichloroethane | 32 | J | ug/l | 100 | 28. | 40 |
| Bromodichloromethane | ND | | ug/l | 20 | 7.7 | 40 |
| trans-1,3-Dichloropropene | ND | | ug/l | 20 | 6.6 | 40 |
| cis-1,3-Dichloropropene | ND | | ug/l | 20 | 5.8 | 40 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 20 | 5.8 | 40 |
| 1,1-Dichloropropene | ND | | ug/l | 100 | 28. | 40 |
| Bromoform | ND | | ug/l | 80 | 26. | 40 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 20 | 6.7 | 40 |
| Benzene | ND | | ug/l | 20 | 6.4 | 40 |
| Toluene | ND | | ug/l | 100 | 28. | 40 |
| Ethylbenzene | ND | | ug/l | 100 | 28. | 40 |
| Chloromethane | ND | | ug/l | 100 | 28. | 40 |
| Bromomethane | ND | | ug/l | 100 | 28. | 40 |
| Vinyl chloride | 300 | | ug/l | 40 | 2.8 | 40 |
| Chloroethane | 140 | | ug/l | 100 | 28. | 40 |
| 1,1-Dichloroethene | ND | | ug/l | 20 | 6.8 | 40 |
| trans-1,2-Dichloroethene | ND | | ug/l | 100 | 28. | 40 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-06 D
Client ID: EZVI HI 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:35
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 8.2 | J | ug/l | 20 | 7.0 | 40 |
| 1,2-Dichlorobenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,3-Dichlorobenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,4-Dichlorobenzene | ND | | ug/l | 100 | 28. | 40 |
| Methyl tert butyl ether | ND | | ug/l | 100 | 28. | 40 |
| p/m-Xylene | ND | | ug/l | 100 | 28. | 40 |
| o-Xylene | ND | | ug/l | 100 | 28. | 40 |
| Xylenes, Total | ND | | ug/l | 100 | 28. | 40 |
| cis-1,2-Dichloroethene | 300 | | ug/l | 100 | 28. | 40 |
| 1,2-Dichloroethene, Total | 300 | | ug/l | 100 | 28. | 40 |
| Dibromomethane | ND | | ug/l | 200 | 40. | 40 |
| 1,2,3-Trichloropropane | ND | | ug/l | 100 | 28. | 40 |
| Acrylonitrile | ND | | ug/l | 200 | 60. | 40 |
| Styrene | ND | | ug/l | 100 | 28. | 40 |
| Dichlorodifluoromethane | ND | | ug/l | 200 | 40. | 40 |
| Acetone | 110 | J | ug/l | 200 | 58. | 40 |
| Carbon disulfide | ND | | ug/l | 200 | 40. | 40 |
| 2-Butanone | 1300 | | ug/l | 200 | 78. | 40 |
| Vinyl acetate | ND | | ug/l | 200 | 40. | 40 |
| 4-Methyl-2-pentanone | ND | | ug/l | 200 | 40. | 40 |
| 2-Hexanone | ND | | ug/l | 200 | 40. | 40 |
| Bromochloromethane | ND | | ug/l | 100 | 28. | 40 |
| 2,2-Dichloropropane | ND | | ug/l | 100 | 28. | 40 |
| 1,2-Dibromoethane | ND | | ug/l | 80 | 26. | 40 |
| 1,3-Dichloropropane | ND | | ug/l | 100 | 28. | 40 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 100 | 28. | 40 |
| Bromobenzene | ND | | ug/l | 100 | 28. | 40 |
| n-Butylbenzene | ND | | ug/l | 100 | 28. | 40 |
| sec-Butylbenzene | ND | | ug/l | 100 | 28. | 40 |
| tert-Butylbenzene | ND | | ug/l | 100 | 28. | 40 |
| o-Chlorotoluene | ND | | ug/l | 100 | 28. | 40 |
| p-Chlorotoluene | ND | | ug/l | 100 | 28. | 40 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 100 | 28. | 40 |
| Hexachlorobutadiene | ND | | ug/l | 100 | 28. | 40 |
| Isopropylbenzene | ND | | ug/l | 100 | 28. | 40 |
| p-Isopropyltoluene | ND | | ug/l | 100 | 28. | 40 |
| Naphthalene | ND | | ug/l | 100 | 28. | 40 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2044697-06 D Date Collected: 10/15/20 08:35

Client ID: EZVI HI 0.5 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,4-Dioxane | ND | | ug/l | 10000 | 2400 | 40 |
| Freon-113 | 64 | J | ug/l | 100 | 28. | 40 |
| p-Diethylbenzene | ND | | ug/l | 80 | 28. | 40 |
| p-Ethyltoluene | ND | | ug/l | 80 | 28. | 40 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 80 | 22. | 40 |
| Ethyl ether | ND | | ug/l | 100 | 28. | 40 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 100 | 28. | 40 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 106 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2044697-07 D
Client ID: CTRL 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:40
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/26/20 23:19
Analyst: NLK

| 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 | 650 | | 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 | 150 | | 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 | 270 | | 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 5.0 | 1.4 | 10 |
| 1,1-Dichloropropene | ND | | ug/l | 25 | 7.0 | 10 |
| Bromoform | ND | | ug/l | 20 | 6.5 | 10 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 5.0 | 1.7 | 10 |
| Benzene | 6.1 | | ug/l | 5.0 | 1.6 | 10 |
| Toluene | 22 | J | ug/l | 25 | 7.0 | 10 |
| Ethylbenzene | ND | | ug/l | 25 | 7.0 | 10 |
| Chloromethane | ND | | ug/l | 25 | 7.0 | 10 |
| Bromomethane | ND | | ug/l | 25 | 7.0 | 10 |
| Vinyl chloride | 490 | | ug/l | 10 | 0.71 | 10 |
| Chloroethane | 200 | | ug/l | 25 | 7.0 | 10 |
| 1,1-Dichloroethene | 8.5 | | ug/l | 5.0 | 1.7 | 10 |
| trans-1,2-Dichloroethene | 7.6 | J | ug/l | 25 | 7.0 | 10 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-07 D
Client ID: CTRL 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:40
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 23 | | ug/l | 5.0 | 1.8 | 10 |
| 1,2-Dichlorobenzene | ND | | ug/l | 25 | 7.0 | 10 |
| 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 | ND | | ug/l | 25 | 7.0 | 10 |
| o-Xylene | ND | | ug/l | 25 | 7.0 | 10 |
| Xylenes, Total | ND | | ug/l | 25 | 7.0 | 10 |
| cis-1,2-Dichloroethene | 690 | | ug/l | 25 | 7.0 | 10 |
| 1,2-Dichloroethene, Total | 700 | J | ug/l | 25 | 7.0 | 10 |
| Dibromomethane | ND | | ug/l | 50 | 10. | 10 |
| 1,2,3-Trichloropropane | ND | | ug/l | 25 | 7.0 | 10 |
| Acrylonitrile | ND | | ug/l | 50 | 15. | 10 |
| Styrene | ND | | ug/l | 25 | 7.0 | 10 |
| Dichlorodifluoromethane | ND | | ug/l | 50 | 10. | 10 |
| Acetone | 19 | J | ug/l | 50 | 15. | 10 |
| Carbon disulfide | ND | | ug/l | 50 | 10. | 10 |
| 2-Butanone | ND | | ug/l | 50 | 19. | 10 |
| Vinyl acetate | ND | | ug/l | 50 | 10. | 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 |
| 2,2-Dichloropropane | ND | | ug/l | 25 | 7.0 | 10 |
| 1,2-Dibromoethane | ND | | ug/l | 20 | 6.5 | 10 |
| 1,3-Dichloropropane | ND | | ug/l | 25 | 7.0 | 10 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 25 | 7.0 | 10 |
| Bromobenzene | ND | | ug/l | 25 | 7.0 | 10 |
| n-Butylbenzene | ND | | ug/l | 25 | 7.0 | 10 |
| sec-Butylbenzene | ND | | ug/l | 25 | 7.0 | 10 |
| tert-Butylbenzene | ND | | ug/l | 25 | 7.0 | 10 |
| o-Chlorotoluene | ND | | ug/l | 25 | 7.0 | 10 |
| p-Chlorotoluene | ND | | ug/l | 25 | 7.0 | 10 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 25 | 7.0 | 10 |
| Hexachlorobutadiene | ND | | ug/l | 25 | 7.0 | 10 |
| Isopropylbenzene | ND | | ug/l | 25 | 7.0 | 10 |
| p-Isopropyltoluene | ND | | ug/l | 25 | 7.0 | 10 |
| Naphthalene | ND | | ug/l | 25 | 7.0 | 10 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-07 D
Client ID: CTRL 0.5
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:40
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | 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 | ND | | ug/l | 25 | 7.0 | 10 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 25 | 7.0 | 10 |
| 1,4-Dioxane | ND | | ug/l | 2500 | 610 | 10 |
| Freon-113 | 130 | | ug/l | 25 | 7.0 | 10 |
| p-Diethylbenzene | ND | | ug/l | 20 | 7.0 | 10 |
| p-Ethyltoluene | ND | | ug/l | 20 | 7.0 | 10 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 20 | 5.4 | 10 |
| Ethyl ether | 12 | J | ug/l | 25 | 7.0 | 10 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 25 | 7.0 | 10 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-08 D
Client ID: CTRL 0.5 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:45
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/26/20 23:42
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 650 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 150 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 280 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 6.3 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 22 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 510 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 220 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 8.1 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 8.2 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-08 D
Client ID: CTRL 0.5 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:45
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 25 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 5.5 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 5.5 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 690 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 700 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 17 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 11 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-08 D
Client ID: CTRL 0.5 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 08:45
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 120 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 11 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-09 D
Client ID: CTRL D0 DUP 2
Sample Location: ROCHESTER, NY

Date Collected: 10/14/20 12:00
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/27/20 00:05
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 720 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 210 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 330 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 7.4 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 30 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 610 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 230 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 11 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 9.5 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-09 D
Client ID: CTRL D0 DUP 2
Sample Location: ROCHESTER, NY

Date Collected: 10/14/20 12:00
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 29 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 8.8 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 8.8 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 770 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 780 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 14 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | ND | | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-09 D
Client ID: CTRL D0 DUP 2
Sample Location: ROCHESTER, NY

Date Collected: 10/14/20 12:00
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 390 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 11 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 92 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-10 D
Client ID: FLOW LO D1
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 14:00
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/27/20 00:28
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 620 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 120 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 230 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 5.6 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 20 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 400 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 200 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 6.3 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 7.1 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-10 D Date Collected: 10/15/20 14:00

Client ID: FLOW LO D1 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 20 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 5.5 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 5.5 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 620 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 630 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 25 | | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 12 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-10 D Date Collected: 10/15/20 14:00

Client ID: FLOW LO D1 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 88 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 11 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-11 D
Client ID: FLOW HI D1
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 14:05
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/27/20 00:52
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 620 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 100 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 200 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 5.7 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 18 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 390 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 190 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 6.2 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 6.3 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-11 D Date Collected: 10/15/20 14:05
Client ID: FLOW HI D1 Date Received: 10/16/20
Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 18 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 4.2 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 4.2 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 600 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 610 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 30 | | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 13 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-11 D Date Collected: 10/15/20 14:05

Client ID: FLOW HI D1 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 83 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 11 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-12 D
Client ID: TAGRET LO D1
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 14:10
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/27/20 01:15
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 650 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 120 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 130 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 6.8 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 22 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 430 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 210 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 6.3 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 7.0 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-12 D Date Collected: 10/15/20 14:10

Client ID: TAGRET LO D1 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 20 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 5.9 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 5.9 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 640 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 650 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 22 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 14 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-12 D Date Collected: 10/15/20 14:10

Client ID: TAGRET LO D1 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 89 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 10 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2044697-13 D
Client ID: TAGRET HI D1
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 14:15
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/27/20 09:18
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 620 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 100 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 85 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 7.2 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 22 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 340 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 170 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 6.3 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 5.9 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-13 D
Client ID: TAGRET HI D1
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 14:15
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 18 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 5.0 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 5.0 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 580 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 590 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 29 | | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 15 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-13 D Date Collected: 10/15/20 14:15

Client ID: TAGRET HI D1 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 79 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 8.9 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-14 D
Client ID: EZVI LO D1
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 14:20
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/27/20 02:48
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 250 | 70. | 100 |
| 1,1-Dichloroethane | 600 | | ug/l | 250 | 70. | 100 |
| Chloroform | ND | | ug/l | 250 | 70. | 100 |
| Carbon tetrachloride | ND | | ug/l | 50 | 13. | 100 |
| 1,2-Dichloropropane | ND | | ug/l | 100 | 14. | 100 |
| Dibromochloromethane | ND | | ug/l | 50 | 15. | 100 |
| 1,1,2-Trichloroethane | ND | | ug/l | 150 | 50. | 100 |
| Tetrachloroethene | 220 | | ug/l | 50 | 18. | 100 |
| Chlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| Trichlorofluoromethane | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dichloroethane | ND | | ug/l | 50 | 13. | 100 |
| 1,1,1-Trichloroethane | 180 | J | ug/l | 250 | 70. | 100 |
| Bromodichloromethane | ND | | ug/l | 50 | 19. | 100 |
| trans-1,3-Dichloropropene | ND | | ug/l | 50 | 16. | 100 |
| cis-1,3-Dichloropropene | ND | | ug/l | 50 | 14. | 100 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 50 | 14. | 100 |
| 1,1-Dichloropropene | ND | | ug/l | 250 | 70. | 100 |
| Bromoform | ND | | ug/l | 200 | 65. | 100 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 50 | 17. | 100 |
| Benzene | ND | | ug/l | 50 | 16. | 100 |
| Toluene | ND | | ug/l | 250 | 70. | 100 |
| Ethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| Chloromethane | ND | | ug/l | 250 | 70. | 100 |
| Bromomethane | ND | | ug/l | 250 | 70. | 100 |
| Vinyl chloride | 470 | | ug/l | 100 | 7.1 | 100 |
| Chloroethane | 180 | J | ug/l | 250 | 70. | 100 |
| 1,1-Dichloroethene | ND | | ug/l | 50 | 17. | 100 |
| trans-1,2-Dichloroethene | ND | | ug/l | 250 | 70. | 100 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2044697-14 D Date Collected: 10/15/20 14:20
Client ID: EZVI LO D1 Date Received: 10/16/20
Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 28 | J | ug/l | 50 | 18. | 100 |
| 1,2-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,3-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,4-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| Methyl tert butyl ether | ND | | ug/l | 250 | 70. | 100 |
| p/m-Xylene | ND | | ug/l | 250 | 70. | 100 |
| o-Xylene | ND | | ug/l | 250 | 70. | 100 |
| Xylenes, Total | ND | | ug/l | 250 | 70. | 100 |
| cis-1,2-Dichloroethene | 630 | | ug/l | 250 | 70. | 100 |
| 1,2-Dichloroethene, Total | 630 | | ug/l | 250 | 70. | 100 |
| Dibromomethane | ND | | ug/l | 500 | 100 | 100 |
| 1,2,3-Trichloropropane | ND | | ug/l | 250 | 70. | 100 |
| Acrylonitrile | ND | | ug/l | 500 | 150 | 100 |
| Styrene | ND | | ug/l | 250 | 70. | 100 |
| Dichlorodifluoromethane | ND | | ug/l | 500 | 100 | 100 |
| Acetone | ND | | ug/l | 500 | 150 | 100 |
| Carbon disulfide | ND | | ug/l | 500 | 100 | 100 |
| 2-Butanone | 340 | J | ug/l | 500 | 190 | 100 |
| Vinyl acetate | ND | | ug/l | 500 | 100 | 100 |
| 4-Methyl-2-pentanone | ND | | ug/l | 500 | 100 | 100 |
| 2-Hexanone | ND | | ug/l | 500 | 100 | 100 |
| Bromochloromethane | ND | | ug/l | 250 | 70. | 100 |
| 2,2-Dichloropropane | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dibromoethane | ND | | ug/l | 200 | 65. | 100 |
| 1,3-Dichloropropane | ND | | ug/l | 250 | 70. | 100 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 250 | 70. | 100 |
| Bromobenzene | ND | | ug/l | 250 | 70. | 100 |
| n-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| sec-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| tert-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| o-Chlorotoluene | ND | | ug/l | 250 | 70. | 100 |
| p-Chlorotoluene | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 250 | 70. | 100 |
| Hexachlorobutadiene | ND | | ug/l | 250 | 70. | 100 |
| Isopropylbenzene | ND | | ug/l | 250 | 70. | 100 |
| p-Isopropyltoluene | ND | | ug/l | 250 | 70. | 100 |
| Naphthalene | ND | | ug/l | 250 | 70. | 100 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-14 D Date Collected: 10/15/20 14:20

Client ID: EZVI LO D1 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,4-Dioxane | ND | | ug/l | 25000 | 6100 | 100 |
| Freon-113 | 290 | | ug/l | 250 | 70. | 100 |
| p-Diethylbenzene | ND | | ug/l | 200 | 70. | 100 |
| p-Ethyltoluene | ND | | ug/l | 200 | 70. | 100 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 200 | 54. | 100 |
| Ethyl ether | ND | | ug/l | 250 | 70. | 100 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 250 | 70. | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-15 D
Client ID: EZVI HI D1
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 14:25
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/27/20 03:11
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 100 | 28. | 40 |
| 1,1-Dichloroethane | 290 | | ug/l | 100 | 28. | 40 |
| Chloroform | ND | | ug/l | 100 | 28. | 40 |
| Carbon tetrachloride | ND | | ug/l | 20 | 5.4 | 40 |
| 1,2-Dichloropropane | ND | | ug/l | 40 | 5.5 | 40 |
| Dibromochloromethane | ND | | ug/l | 20 | 6.0 | 40 |
| 1,1,2-Trichloroethane | ND | | ug/l | 60 | 20. | 40 |
| Tetrachloroethene | 36 | | ug/l | 20 | 7.2 | 40 |
| Chlorobenzene | ND | | ug/l | 100 | 28. | 40 |
| Trichlorofluoromethane | ND | | ug/l | 100 | 28. | 40 |
| 1,2-Dichloroethane | ND | | ug/l | 20 | 5.3 | 40 |
| 1,1,1-Trichloroethane | 36 | J | ug/l | 100 | 28. | 40 |
| Bromodichloromethane | ND | | ug/l | 20 | 7.7 | 40 |
| trans-1,3-Dichloropropene | ND | | ug/l | 20 | 6.6 | 40 |
| cis-1,3-Dichloropropene | ND | | ug/l | 20 | 5.8 | 40 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 20 | 5.8 | 40 |
| 1,1-Dichloropropene | ND | | ug/l | 100 | 28. | 40 |
| Bromoform | ND | | ug/l | 80 | 26. | 40 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 20 | 6.7 | 40 |
| Benzene | ND | | ug/l | 20 | 6.4 | 40 |
| Toluene | ND | | ug/l | 100 | 28. | 40 |
| Ethylbenzene | ND | | ug/l | 100 | 28. | 40 |
| Chloromethane | ND | | ug/l | 100 | 28. | 40 |
| Bromomethane | ND | | ug/l | 100 | 28. | 40 |
| Vinyl chloride | 310 | | ug/l | 40 | 2.8 | 40 |
| Chloroethane | 130 | | ug/l | 100 | 28. | 40 |
| 1,1-Dichloroethene | ND | | ug/l | 20 | 6.8 | 40 |
| trans-1,2-Dichloroethene | ND | | ug/l | 100 | 28. | 40 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-15 D
Client ID: EZVI HI D1
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 14:25
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 7.6 | J | ug/l | 20 | 7.0 | 40 |
| 1,2-Dichlorobenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,3-Dichlorobenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,4-Dichlorobenzene | ND | | ug/l | 100 | 28. | 40 |
| Methyl tert butyl ether | ND | | ug/l | 100 | 28. | 40 |
| p/m-Xylene | ND | | ug/l | 100 | 28. | 40 |
| o-Xylene | ND | | ug/l | 100 | 28. | 40 |
| Xylenes, Total | ND | | ug/l | 100 | 28. | 40 |
| cis-1,2-Dichloroethene | 300 | | ug/l | 100 | 28. | 40 |
| 1,2-Dichloroethene, Total | 300 | | ug/l | 100 | 28. | 40 |
| Dibromomethane | ND | | ug/l | 200 | 40. | 40 |
| 1,2,3-Trichloropropane | ND | | ug/l | 100 | 28. | 40 |
| Acrylonitrile | ND | | ug/l | 200 | 60. | 40 |
| Styrene | ND | | ug/l | 100 | 28. | 40 |
| Dichlorodifluoromethane | ND | | ug/l | 200 | 40. | 40 |
| Acetone | 110 | J | ug/l | 200 | 58. | 40 |
| Carbon disulfide | ND | | ug/l | 200 | 40. | 40 |
| 2-Butanone | 1400 | | ug/l | 200 | 78. | 40 |
| Vinyl acetate | ND | | ug/l | 200 | 40. | 40 |
| 4-Methyl-2-pentanone | ND | | ug/l | 200 | 40. | 40 |
| 2-Hexanone | ND | | ug/l | 200 | 40. | 40 |
| Bromochloromethane | ND | | ug/l | 100 | 28. | 40 |
| 2,2-Dichloropropane | ND | | ug/l | 100 | 28. | 40 |
| 1,2-Dibromoethane | ND | | ug/l | 80 | 26. | 40 |
| 1,3-Dichloropropane | ND | | ug/l | 100 | 28. | 40 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 100 | 28. | 40 |
| Bromobenzene | ND | | ug/l | 100 | 28. | 40 |
| n-Butylbenzene | ND | | ug/l | 100 | 28. | 40 |
| sec-Butylbenzene | ND | | ug/l | 100 | 28. | 40 |
| tert-Butylbenzene | ND | | ug/l | 100 | 28. | 40 |
| o-Chlorotoluene | ND | | ug/l | 100 | 28. | 40 |
| p-Chlorotoluene | ND | | ug/l | 100 | 28. | 40 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 100 | 28. | 40 |
| Hexachlorobutadiene | ND | | ug/l | 100 | 28. | 40 |
| Isopropylbenzene | ND | | ug/l | 100 | 28. | 40 |
| p-Isopropyltoluene | ND | | ug/l | 100 | 28. | 40 |
| Naphthalene | ND | | ug/l | 100 | 28. | 40 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-15 D Date Collected: 10/15/20 14:25

Client ID: EZVI HI D1 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 100 | 28. | 40 |
| 1,4-Dioxane | ND | | ug/l | 10000 | 2400 | 40 |
| Freon-113 | 63 | J | ug/l | 100 | 28. | 40 |
| p-Diethylbenzene | ND | | ug/l | 80 | 28. | 40 |
| p-Ethyltoluene | ND | | ug/l | 80 | 28. | 40 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 80 | 22. | 40 |
| Ethyl ether | ND | | ug/l | 100 | 28. | 40 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 100 | 28. | 40 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 108 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-16 D
Client ID: CTRL D1
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 14:30
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/27/20 01:38
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 660 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 140 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 270 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 6.1 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 22 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 490 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 220 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 7.8 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 7.7 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-16 D Date Collected: 10/15/20 14:30

Client ID: CTRL D1 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 23 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 5.7 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 5.7 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 690 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 700 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 16 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 11 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-16 D Date Collected: 10/15/20 14:30

Client ID: CTRL D1 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 110 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 11 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-17 D
Client ID: CTRL D1 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 14:35
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/28/20 02:15
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 600 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 130 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 230 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 6.0 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 22 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 390 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 180 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 6.6 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 7.2 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-17 D
Client ID: CTRL D1 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 14:35
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 20 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 5.8 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 5.8 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 640 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 650 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 16 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | ND | | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-17 D
Client ID: CTRL D1 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/15/20 14:35
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 54 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 11 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-18 D
Client ID: FLOW LO D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 12:30
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/19/20 22:37
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 670 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 140 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 270 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 7.0 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 23 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 410 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 200 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 7.8 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 8.8 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-18 D
Client ID: FLOW LO D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 12:30
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 22 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | 5.3 | J | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 6.8 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 12 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 690 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 700 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 24 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 12 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-18 D
Client ID: FLOW LO D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 12:30
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 140 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 10 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-19 D
Client ID: FLOW HI D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 12:35
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/19/20 22:59
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 550 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 99 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 160 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 5.3 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 18 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 320 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 150 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 5.4 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 5.4 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-19 D Date Collected: 10/16/20 12:35

Client ID: FLOW HI D2 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 16 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 4.6 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 4.6 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 540 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 550 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 25 | | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 12 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-19 D
Client ID: FLOW HI D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 12:35
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 92 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 8.4 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-20 D
Client ID: TARGET LO D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 12:40
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/19/20 23:21
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 590 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 130 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 97 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 6.4 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 23 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 340 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 180 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 7.3 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 7.0 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2044697-20 D
Client ID: TARGET LO D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 12:40
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 18 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 6.5 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 6.5 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 620 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 630 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 20 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 11 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-20 D Date Collected: 10/16/20 12:40

Client ID: TARGET LO D2 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 96 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 9.5 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-21 D
Client ID: TARGET HI D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 12:45
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/19/20 23:42
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 620 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 100 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 32 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 7.5 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 24 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 330 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 180 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 6.0 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 5.1 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-21 D
Client ID: TARGET HI D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 12:45
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 16 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 5.9 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 5.9 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 570 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 580 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | 5.9 | J | ug/l | 20 | 4.0 | 4 |
| Acetone | 30 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 14 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-21 D Date Collected: 10/16/20 12:45

Client ID: TARGET HI D2 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 67 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 9.2 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-22 D
Client ID: EZVI LO D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 12:50
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 00:04
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 250 | 70. | 100 |
| 1,1-Dichloroethane | 610 | | ug/l | 250 | 70. | 100 |
| Chloroform | ND | | ug/l | 250 | 70. | 100 |
| Carbon tetrachloride | ND | | ug/l | 50 | 13. | 100 |
| 1,2-Dichloropropane | ND | | ug/l | 100 | 14. | 100 |
| Dibromochloromethane | ND | | ug/l | 50 | 15. | 100 |
| 1,1,2-Trichloroethane | ND | | ug/l | 150 | 50. | 100 |
| Tetrachloroethene | 230 | | ug/l | 50 | 18. | 100 |
| Chlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| Trichlorofluoromethane | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dichloroethane | ND | | ug/l | 50 | 13. | 100 |
| 1,1,1-Trichloroethane | 210 | J | ug/l | 250 | 70. | 100 |
| Bromodichloromethane | ND | | ug/l | 50 | 19. | 100 |
| trans-1,3-Dichloropropene | ND | | ug/l | 50 | 16. | 100 |
| cis-1,3-Dichloropropene | ND | | ug/l | 50 | 14. | 100 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 50 | 14. | 100 |
| 1,1-Dichloropropene | ND | | ug/l | 250 | 70. | 100 |
| Bromoform | ND | | ug/l | 200 | 65. | 100 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 50 | 17. | 100 |
| Benzene | ND | | ug/l | 50 | 16. | 100 |
| Toluene | ND | | ug/l | 250 | 70. | 100 |
| Ethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| Chloromethane | ND | | ug/l | 250 | 70. | 100 |
| Bromomethane | ND | | ug/l | 250 | 70. | 100 |
| Vinyl chloride | 380 | | ug/l | 100 | 7.1 | 100 |
| Chloroethane | 200 | J | ug/l | 250 | 70. | 100 |
| 1,1-Dichloroethene | ND | | ug/l | 50 | 17. | 100 |
| trans-1,2-Dichloroethene | ND | | ug/l | 250 | 70. | 100 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-22 D
Client ID: EZVI LO D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 12:50
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 27 | J | ug/l | 50 | 18. | 100 |
| 1,2-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,3-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,4-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| Methyl tert butyl ether | ND | | ug/l | 250 | 70. | 100 |
| p/m-Xylene | ND | | ug/l | 250 | 70. | 100 |
| o-Xylene | ND | | ug/l | 250 | 70. | 100 |
| Xylenes, Total | ND | | ug/l | 250 | 70. | 100 |
| cis-1,2-Dichloroethene | 640 | | ug/l | 250 | 70. | 100 |
| 1,2-Dichloroethene, Total | 640 | | ug/l | 250 | 70. | 100 |
| Dibromomethane | ND | | ug/l | 500 | 100 | 100 |
| 1,2,3-Trichloropropane | ND | | ug/l | 250 | 70. | 100 |
| Acrylonitrile | ND | | ug/l | 500 | 150 | 100 |
| Styrene | ND | | ug/l | 250 | 70. | 100 |
| Dichlorodifluoromethane | ND | | ug/l | 500 | 100 | 100 |
| Acetone | ND | | ug/l | 500 | 150 | 100 |
| Carbon disulfide | ND | | ug/l | 500 | 100 | 100 |
| 2-Butanone | 320 | J | ug/l | 500 | 190 | 100 |
| Vinyl acetate | ND | | ug/l | 500 | 100 | 100 |
| 4-Methyl-2-pentanone | ND | | ug/l | 500 | 100 | 100 |
| 2-Hexanone | ND | | ug/l | 500 | 100 | 100 |
| Bromochloromethane | ND | | ug/l | 250 | 70. | 100 |
| 2,2-Dichloropropane | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dibromoethane | ND | | ug/l | 200 | 65. | 100 |
| 1,3-Dichloropropane | ND | | ug/l | 250 | 70. | 100 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 250 | 70. | 100 |
| Bromobenzene | ND | | ug/l | 250 | 70. | 100 |
| n-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| sec-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| tert-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| o-Chlorotoluene | ND | | ug/l | 250 | 70. | 100 |
| p-Chlorotoluene | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 250 | 70. | 100 |
| Hexachlorobutadiene | ND | | ug/l | 250 | 70. | 100 |
| Isopropylbenzene | ND | | ug/l | 250 | 70. | 100 |
| p-Isopropyltoluene | ND | | ug/l | 250 | 70. | 100 |
| Naphthalene | ND | | ug/l | 250 | 70. | 100 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-22 D Date Collected: 10/16/20 12:50

Client ID: EZVI LO D2 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,4-Dioxane | ND | | ug/l | 25000 | 6100 | 100 |
| Freon-113 | 350 | | ug/l | 250 | 70. | 100 |
| p-Diethylbenzene | ND | | ug/l | 200 | 70. | 100 |
| p-Ethyltoluene | ND | | ug/l | 200 | 70. | 100 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 200 | 54. | 100 |
| Ethyl ether | ND | | ug/l | 250 | 70. | 100 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 250 | 70. | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-23 D
Client ID: EZVI HI D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 12:55
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 00:25
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 250 | 70. | 100 |
| 1,1-Dichloroethane | 300 | | ug/l | 250 | 70. | 100 |
| Chloroform | ND | | ug/l | 250 | 70. | 100 |
| Carbon tetrachloride | ND | | ug/l | 50 | 13. | 100 |
| 1,2-Dichloropropane | ND | | ug/l | 100 | 14. | 100 |
| Dibromochloromethane | ND | | ug/l | 50 | 15. | 100 |
| 1,1,2-Trichloroethane | ND | | ug/l | 150 | 50. | 100 |
| Tetrachloroethene | 51 | | ug/l | 50 | 18. | 100 |
| Chlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| Trichlorofluoromethane | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dichloroethane | ND | | ug/l | 50 | 13. | 100 |
| 1,1,1-Trichloroethane | ND | | ug/l | 250 | 70. | 100 |
| Bromodichloromethane | ND | | ug/l | 50 | 19. | 100 |
| trans-1,3-Dichloropropene | ND | | ug/l | 50 | 16. | 100 |
| cis-1,3-Dichloropropene | ND | | ug/l | 50 | 14. | 100 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 50 | 14. | 100 |
| 1,1-Dichloropropene | ND | | ug/l | 250 | 70. | 100 |
| Bromoform | ND | | ug/l | 200 | 65. | 100 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 50 | 17. | 100 |
| Benzene | ND | | ug/l | 50 | 16. | 100 |
| Toluene | ND | | ug/l | 250 | 70. | 100 |
| Ethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| Chloromethane | ND | | ug/l | 250 | 70. | 100 |
| Bromomethane | ND | | ug/l | 250 | 70. | 100 |
| Vinyl chloride | 250 | | ug/l | 100 | 7.1 | 100 |
| Chloroethane | 130 | J | ug/l | 250 | 70. | 100 |
| 1,1-Dichloroethene | ND | | ug/l | 50 | 17. | 100 |
| trans-1,2-Dichloroethene | ND | | ug/l | 250 | 70. | 100 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-23 D
Client ID: EZVI HI D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 12:55
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | ND | | ug/l | 50 | 18. | 100 |
| 1,2-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,3-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,4-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| Methyl tert butyl ether | ND | | ug/l | 250 | 70. | 100 |
| p/m-Xylene | ND | | ug/l | 250 | 70. | 100 |
| o-Xylene | ND | | ug/l | 250 | 70. | 100 |
| Xylenes, Total | ND | | ug/l | 250 | 70. | 100 |
| cis-1,2-Dichloroethene | 290 | | ug/l | 250 | 70. | 100 |
| 1,2-Dichloroethene, Total | 290 | | ug/l | 250 | 70. | 100 |
| Dibromomethane | ND | | ug/l | 500 | 100 | 100 |
| 1,2,3-Trichloropropane | ND | | ug/l | 250 | 70. | 100 |
| Acrylonitrile | ND | | ug/l | 500 | 150 | 100 |
| Styrene | ND | | ug/l | 250 | 70. | 100 |
| Dichlorodifluoromethane | ND | | ug/l | 500 | 100 | 100 |
| Acetone | ND | | ug/l | 500 | 150 | 100 |
| Carbon disulfide | ND | | ug/l | 500 | 100 | 100 |
| 2-Butanone | 1400 | | ug/l | 500 | 190 | 100 |
| Vinyl acetate | ND | | ug/l | 500 | 100 | 100 |
| 4-Methyl-2-pentanone | ND | | ug/l | 500 | 100 | 100 |
| 2-Hexanone | ND | | ug/l | 500 | 100 | 100 |
| Bromochloromethane | ND | | ug/l | 250 | 70. | 100 |
| 2,2-Dichloropropane | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dibromoethane | ND | | ug/l | 200 | 65. | 100 |
| 1,3-Dichloropropane | ND | | ug/l | 250 | 70. | 100 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 250 | 70. | 100 |
| Bromobenzene | ND | | ug/l | 250 | 70. | 100 |
| n-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| sec-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| tert-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| o-Chlorotoluene | ND | | ug/l | 250 | 70. | 100 |
| p-Chlorotoluene | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 250 | 70. | 100 |
| Hexachlorobutadiene | ND | | ug/l | 250 | 70. | 100 |
| Isopropylbenzene | ND | | ug/l | 250 | 70. | 100 |
| p-Isopropyltoluene | ND | | ug/l | 250 | 70. | 100 |
| Naphthalene | ND | | ug/l | 250 | 70. | 100 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-23 D Date Collected: 10/16/20 12:55

Client ID: EZVI HI D2 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,4-Dioxane | ND | | ug/l | 25000 | 6100 | 100 |
| Freon-113 | 94 | J | ug/l | 250 | 70. | 100 |
| p-Diethylbenzene | ND | | ug/l | 200 | 70. | 100 |
| p-Ethyltoluene | ND | | ug/l | 200 | 70. | 100 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 200 | 54. | 100 |
| Ethyl ether | ND | | ug/l | 250 | 70. | 100 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 250 | 70. | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-24 D
Client ID: CTRL D2
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 13:00
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 00:47
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 610 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 140 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 280 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 5.6 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 21 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 400 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 190 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 8.8 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 7.9 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-24 D Date Collected: 10/16/20 13:00

Client ID: CTRL D2 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 24 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 4.7 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 4.7 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 670 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 680 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 17 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 11 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-24 D Date Collected: 10/16/20 13:00

Client ID: CTRL D2 Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 120 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 9.6 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-25 D
Client ID: CTRL D2 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 13:05
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 01:09
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 650 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 150 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 300 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 6.2 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 23 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 450 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 210 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 9.1 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 7.9 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-25 D
Client ID: CTRL D2 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/16/20 13:05
Date Received: 10/16/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 25 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 5.1 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 5.1 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 700 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 710 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 19 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | ND | | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2044697

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2044697-25 D Date Collected: 10/16/20 13:05

Client ID: CTRL D2 DUP Date Received: 10/16/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 140 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 10 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/19/20 17:58
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 18-25 Batch: WG1424046-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/19/20 17:58
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 18-25 Batch: WG1424046-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/19/20 17:58
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 18-25 Batch: WG1424046-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

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

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/26/20 20:13
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-12,14-16 Batch: WG1427127-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/26/20 20:13
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-12,14-16 Batch: WG1427127-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/26/20 20:13
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-12,14-16 Batch: WG1427127-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/27/20 08:56
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 13 Batch: WG1427204-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/27/20 08:56
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 13 Batch: WG1427204-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/27/20 08:56
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 13 Batch: WG1427204-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 106 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/27/20 19:15
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 17 Batch: WG1427448-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/27/20 19:15
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 17 Batch: WG1427448-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2044697
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/27/20 19:15
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 17 Batch: WG1427448-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 95 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 18-25 Batch: WG1424046-3 WG1424046-4 | | | | | | | | |
| Methylene chloride | 96 | | 92 | | 70-130 | 4 | | 20 |
| 1,1-Dichloroethane | 93 | | 97 | | 70-130 | 4 | | 20 |
| Chloroform | 92 | | 95 | | 70-130 | 3 | | 20 |
| Carbon tetrachloride | 93 | | 96 | | 63-132 | 3 | | 20 |
| 1,2-Dichloropropane | 92 | | 97 | | 70-130 | 5 | | 20 |
| Dibromochloromethane | 89 | | 94 | | 63-130 | 5 | | 20 |
| 1,1,2-Trichloroethane | 91 | | 95 | | 70-130 | 4 | | 20 |
| Tetrachloroethene | 94 | | 100 | | 70-130 | 6 | | 20 |
| Chlorobenzene | 95 | | 98 | | 75-130 | 3 | | 20 |
| Trichlorofluoromethane | 94 | | 100 | | 62-150 | 6 | | 20 |
| 1,2-Dichloroethane | 90 | | 92 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 94 | | 100 | | 67-130 | 6 | | 20 |
| Bromodichloromethane | 89 | | 92 | | 67-130 | 3 | | 20 |
| trans-1,3-Dichloropropene | 88 | | 91 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 88 | | 91 | | 70-130 | 3 | | 20 |
| 1,1-Dichloropropene | 95 | | 100 | | 70-130 | 5 | | 20 |
| Bromoform | 87 | | 89 | | 54-136 | 2 | | 20 |
| 1,1,2,2-Tetrachloroethane | 91 | | 92 | | 67-130 | 1 | | 20 |
| Benzene | 94 | | 96 | | 70-130 | 2 | | 20 |
| Toluene | 96 | | 100 | | 70-130 | 4 | | 20 |
| Ethylbenzene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Chloromethane | 90 | | 98 | | 64-130 | 9 | | 20 |
| Bromomethane | 79 | | 80 | | 39-139 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 18-25 Batch: WG1424046-3 WG1424046-4 | | | | | | | | |
| Vinyl chloride | 93 | | 100 | | 55-140 | 7 | | 20 |
| Chloroethane | 110 | | 110 | | 55-138 | 0 | | 20 |
| 1,1-Dichloroethene | 96 | | 100 | | 61-145 | 4 | | 20 |
| trans-1,2-Dichloroethene | 93 | | 100 | | 70-130 | 7 | | 20 |
| Trichloroethene | 86 | | 97 | | 70-130 | 12 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 95 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 97 | | 99 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 94 | | 94 | | 70-130 | 0 | | 20 |
| Methyl tert butyl ether | 90 | | 88 | | 63-130 | 2 | | 20 |
| p/m-Xylene | 100 | | 105 | | 70-130 | 5 | | 20 |
| o-Xylene | 100 | | 105 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 90 | | 97 | | 70-130 | 7 | | 20 |
| Dibromomethane | 93 | | 95 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichloropropane | 94 | | 93 | | 64-130 | 1 | | 20 |
| Acrylonitrile | 91 | | 87 | | 70-130 | 4 | | 20 |
| Styrene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Dichlorodifluoromethane | 96 | | 100 | | 36-147 | 4 | | 20 |
| Acetone | 84 | | 84 | | 58-148 | 0 | | 20 |
| Carbon disulfide | 91 | | 97 | | 51-130 | 6 | | 20 |
| 2-Butanone | 97 | | 93 | | 63-138 | 4 | | 20 |
| Vinyl acetate | 84 | | 85 | | 70-130 | 1 | | 20 |
| 4-Methyl-2-pentanone | 82 | | 88 | | 59-130 | 7 | | 20 |
| 2-Hexanone | 84 | | 77 | | 57-130 | 9 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 18-25 Batch: WG1424046-3 WG1424046-4 | | | | | | | | |
| Bromochloromethane | 98 | | 94 | | 70-130 | 4 | | 20 |
| 2,2-Dichloropropane | 94 | | 98 | | 63-133 | 4 | | 20 |
| 1,2-Dibromoethane | 91 | | 96 | | 70-130 | 5 | | 20 |
| 1,3-Dichloropropane | 93 | | 96 | | 70-130 | 3 | | 20 |
| 1,1,1,2-Tetrachloroethane | 92 | | 96 | | 64-130 | 4 | | 20 |
| Bromobenzene | 92 | | 97 | | 70-130 | 5 | | 20 |
| n-Butylbenzene | 100 | | 100 | | 53-136 | 0 | | 20 |
| sec-Butylbenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| tert-Butylbenzene | 88 | | 91 | | 70-130 | 3 | | 20 |
| o-Chlorotoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 98 | | 100 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 78 | | 86 | | 41-144 | 10 | | 20 |
| Hexachlorobutadiene | 93 | | 100 | | 63-130 | 7 | | 20 |
| Isopropylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Naphthalene | 80 | | 78 | | 70-130 | 3 | | 20 |
| n-Propylbenzene | 100 | | 110 | | 69-130 | 10 | | 20 |
| 1,2,3-Trichlorobenzene | 85 | | 88 | | 70-130 | 3 | | 20 |
| 1,2,4-Trichlorobenzene | 89 | | 92 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 100 | | 100 | | 64-130 | 0 | | 20 |
| 1,2,4-Trimethylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 90 | | 84 | | 56-162 | 7 | | 20 |
| Freon-113 | 94 | | 99 | | 70-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 18-25 Batch: WG1424046-3 WG1424046-4 | | | | | | | | |
| p-Diethylbenzene | 95 | | 99 | | 70-130 | 4 | | 20 |
| p-Ethyltoluene | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 91 | | 94 | | 70-130 | 3 | | 20 |
| Ethyl ether | 92 | | 93 | | 59-134 | 1 | | 20 |
| trans-1,4-Dichloro-2-butene | 86 | | 85 | | 70-130 | 1 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 96 | | 70-130 |
| Toluene-d8 | 100 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 100 | | 70-130 |
| Dibromofluoromethane | 96 | | 98 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-12,14-16 Batch: WG1427127-3 WG1427127-4 | | | | | | | | |
| Methylene chloride | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethane | 110 | | 110 | | 70-130 | 0 | | 20 |
| Chloroform | 98 | | 97 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 110 | | 100 | | 63-132 | 10 | | 20 |
| 1,2-Dichloropropane | 110 | | 110 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 84 | | 86 | | 63-130 | 2 | | 20 |
| 1,1,2-Trichloroethane | 93 | | 97 | | 70-130 | 4 | | 20 |
| Tetrachloroethene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Chlorobenzene | 97 | | 93 | | 75-130 | 4 | | 20 |
| Trichlorofluoromethane | 120 | | 110 | | 62-150 | 9 | | 20 |
| 1,2-Dichloroethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1,1-Trichloroethane | 110 | | 100 | | 67-130 | 10 | | 20 |
| Bromodichloromethane | 96 | | 98 | | 67-130 | 2 | | 20 |
| trans-1,3-Dichloropropene | 80 | | 76 | | 70-130 | 5 | | 20 |
| cis-1,3-Dichloropropene | 96 | | 92 | | 70-130 | 4 | | 20 |
| 1,1-Dichloropropene | 120 | | 110 | | 70-130 | 9 | | 20 |
| Bromoform | 86 | | 89 | | 54-136 | 3 | | 20 |
| 1,1,2,2-Tetrachloroethane | 88 | | 94 | | 67-130 | 7 | | 20 |
| Benzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Toluene | 100 | | 98 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| Chloromethane | 130 | | 130 | | 64-130 | 0 | | 20 |
| Bromomethane | 98 | | 89 | | 39-139 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-12,14-16 Batch: WG1427127-3 WG1427127-4 | | | | | | | | |
| Vinyl chloride | 140 | | 120 | | 55-140 | 15 | | 20 |
| Chloroethane | **150** | Q | 130 | | 55-138 | 14 | | 20 |
| 1,1-Dichloroethene | 96 | | 92 | | 61-145 | 4 | | 20 |
| trans-1,2-Dichloroethene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Trichloroethene | 100 | | 99 | | 70-130 | 1 | | 20 |
| 1,2-Dichlorobenzene | 99 | | 99 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 100 | | 98 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 99 | | 98 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 85 | | 71 | | 63-130 | 18 | | 20 |
| p/m-Xylene | 100 | | 95 | | 70-130 | 5 | | 20 |
| o-Xylene | 100 | | 95 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Dibromomethane | 97 | | 99 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichloropropane | 87 | | 93 | | 64-130 | 7 | | 20 |
| Acrylonitrile | 95 | | 100 | | 70-130 | 5 | | 20 |
| Styrene | 95 | | 95 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | **180** | Q | **160** | Q | 36-147 | 12 | | 20 |
| Acetone | 85 | | 100 | | 58-148 | 16 | | 20 |
| Carbon disulfide | 110 | | 99 | | 51-130 | 11 | | 20 |
| 2-Butanone | 90 | | 89 | | 63-138 | 1 | | 20 |
| Vinyl acetate | 92 | | 95 | | 70-130 | 3 | | 20 |
| 4-Methyl-2-pentanone | 83 | | 97 | | 59-130 | 16 | | 20 |
| 2-Hexanone | 82 | | 91 | | 57-130 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-12,14-16 Batch: WG1427127-3 WG1427127-4 | | | | | | | | |
| Bromochloromethane | 98 | | 100 | | 70-130 | 2 | | 20 |
| 2,2-Dichloropropane | 110 | | 93 | | 63-133 | 17 | | 20 |
| 1,2-Dibromoethane | 88 | | 91 | | 70-130 | 3 | | 20 |
| 1,3-Dichloropropane | 130 | | 130 | | 70-130 | 0 | | 20 |
| 1,1,1,2-Tetrachloroethane | 93 | | 90 | | 64-130 | 3 | | 20 |
| Bromobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| n-Butylbenzene | 100 | | 89 | | 53-136 | 12 | | 20 |
| sec-Butylbenzene | 110 | | 98 | | 70-130 | 12 | | 20 |
| tert-Butylbenzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| o-Chlorotoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 100 | | 96 | | 70-130 | 4 | | 20 |
| 1,2-Dibromo-3-chloropropane | 84 | | 89 | | 41-144 | 6 | | 20 |
| Hexachlorobutadiene | 110 | | 100 | | 63-130 | 10 | | 20 |
| Isopropylbenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| p-Isopropyltoluene | 100 | | 93 | | 70-130 | 7 | | 20 |
| Naphthalene | 100 | | 86 | | 70-130 | 15 | | 20 |
| n-Propylbenzene | 110 | | 100 | | 69-130 | 10 | | 20 |
| 1,2,3-Trichlorobenzene | 91 | | 91 | | 70-130 | 0 | | 20 |
| 1,2,4-Trichlorobenzene | 96 | | 93 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 110 | | 99 | | 64-130 | 11 | | 20 |
| 1,2,4-Trimethylbenzene | 120 | | 98 | | 70-130 | 20 | | 20 |
| 1,4-Dioxane | 76 | | 76 | | 56-162 | 0 | | 20 |
| Freon-113 | 110 | | 97 | | 70-130 | 13 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-12,14-16 Batch: WG1427127-3 WG1427127-4 | | | | | | | | |
| p-Diethylbenzene | 100 | | 88 | | 70-130 | 13 | | 20 |
| p-Ethyltoluene | 110 | | 98 | | 70-130 | 12 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 98 | | 86 | | 70-130 | 13 | | 20 |
| Ethyl ether | 100 | | 110 | | 59-134 | 10 | | 20 |
| trans-1,4-Dichloro-2-butene | **48** | Q | **43** | Q | 70-130 | 11 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 100 | | 70-130 |
| Toluene-d8 | 99 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 102 | | 70-130 |
| Dibromofluoromethane | 98 | | 98 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 13 Batch: WG1427204-3 WG1427204-4 | | | | | | | | |
| Methylene chloride | 100 | | 97 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 110 | | 100 | | 70-130 | 10 | | 20 |
| Chloroform | 100 | | 100 | | 70-130 | 0 | | 20 |
| Carbon tetrachloride | 96 | | 98 | | 63-132 | 2 | | 20 |
| 1,2-Dichloropropane | 99 | | 100 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 92 | | 94 | | 63-130 | 2 | | 20 |
| 1,1,2-Trichloroethane | 94 | | 98 | | 70-130 | 4 | | 20 |
| Tetrachloroethene | 98 | | 98 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 100 | | 100 | | 75-130 | 0 | | 20 |
| Trichlorofluoromethane | 110 | | 110 | | 62-150 | 0 | | 20 |
| 1,2-Dichloroethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1,1-Trichloroethane | 98 | | 99 | | 67-130 | 1 | | 20 |
| Bromodichloromethane | 100 | | 100 | | 67-130 | 0 | | 20 |
| trans-1,3-Dichloropropene | 94 | | 92 | | 70-130 | 2 | | 20 |
| cis-1,3-Dichloropropene | 95 | | 94 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 100 | | 99 | | 70-130 | 1 | | 20 |
| Bromoform | 84 | | 92 | | 54-136 | 9 | | 20 |
| 1,1,2,2-Tetrachloroethane | 90 | | 93 | | 67-130 | 3 | | 20 |
| Benzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Toluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Ethylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Chloromethane | 110 | | 110 | | 64-130 | 0 | | 20 |
| Bromomethane | 100 | | 110 | | 39-139 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 13 Batch: WG1427204-3 WG1427204-4 | | | | | | | | |
| Vinyl chloride | 110 | | 100 | | 55-140 | 10 | | 20 |
| Chloroethane | 120 | | 120 | | 55-138 | 0 | | 20 |
| 1,1-Dichloroethene | 100 | | 96 | | 61-145 | 4 | | 20 |
| trans-1,2-Dichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Trichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,2-Dichlorobenzene | 95 | | 100 | | 70-130 | 5 | | 20 |
| 1,3-Dichlorobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 96 | | 98 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 91 | | 93 | | 63-130 | 2 | | 20 |
| p/m-Xylene | 105 | | 105 | | 70-130 | 0 | | 20 |
| o-Xylene | 105 | | 105 | | 70-130 | 0 | | 20 |
| cis-1,2-Dichloroethene | 100 | | 99 | | 70-130 | 1 | | 20 |
| Dibromomethane | 93 | | 98 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichloropropane | 91 | | 100 | | 64-130 | 9 | | 20 |
| Acrylonitrile | 92 | | 100 | | 70-130 | 8 | | 20 |
| Styrene | 110 | | 110 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 110 | | 110 | | 36-147 | 0 | | 20 |
| Acetone | 90 | | 93 | | 58-148 | 3 | | 20 |
| Carbon disulfide | 110 | | 100 | | 51-130 | 10 | | 20 |
| 2-Butanone | 97 | | 110 | | 63-138 | 13 | | 20 |
| Vinyl acetate | 90 | | 93 | | 70-130 | 3 | | 20 |
| 4-Methyl-2-pentanone | 79 | | 86 | | 59-130 | 8 | | 20 |
| 2-Hexanone | 78 | | 83 | | 57-130 | 6 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 13 Batch: WG1427204-3 WG1427204-4 | | | | | | | | |
| Bromochloromethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| 2,2-Dichloropropane | 100 | | 100 | | 63-133 | 0 | | 20 |
| 1,2-Dibromoethane | 94 | | 93 | | 70-130 | 1 | | 20 |
| 1,3-Dichloropropane | 96 | | 98 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 100 | | 99 | | 64-130 | 1 | | 20 |
| Bromobenzene | 99 | | 100 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 110 | | 110 | | 53-136 | 0 | | 20 |
| sec-Butylbenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| tert-Butylbenzene | 88 | | 90 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 110 | | 110 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 110 | | 110 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 63 | | 72 | | 41-144 | 13 | | 20 |
| Hexachlorobutadiene | 90 | | 88 | | 63-130 | 2 | | 20 |
| Isopropylbenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Naphthalene | **47** | Q | **51** | Q | 70-130 | 8 | | 20 |
| n-Propylbenzene | 110 | | 110 | | 69-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | **49** | Q | **54** | Q | 70-130 | 10 | | 20 |
| 1,2,4-Trichlorobenzene | **68** | Q | **68** | Q | 70-130 | 0 | | 20 |
| 1,3,5-Trimethylbenzene | 110 | | 110 | | 64-130 | 0 | | 20 |
| 1,2,4-Trimethylbenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 80 | | 80 | | 56-162 | 0 | | 20 |
| Freon-113 | 100 | | 100 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 13 Batch: WG1427204-3 WG1427204-4 | | | | | | | | |
| p-Diethylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| p-Ethyltoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 90 | | 90 | | 70-130 | 0 | | 20 |
| Ethyl ether | 94 | | 94 | | 59-134 | 0 | | 20 |
| trans-1,4-Dichloro-2-butene | 86 | | 96 | | 70-130 | 11 | | 20 |

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

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 17 Batch: WG1427448-3 WG1427448-4 | | | | | | | | |
| Methylene chloride | 95 | | 100 | | 70-130 | 5 | | 20 |
| 1,1-Dichloroethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| Chloroform | 91 | | 95 | | 70-130 | 4 | | 20 |
| Carbon tetrachloride | 92 | | 96 | | 63-132 | 4 | | 20 |
| 1,2-Dichloropropane | 99 | | 100 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 82 | | 88 | | 63-130 | 7 | | 20 |
| 1,1,2-Trichloroethane | 92 | | 99 | | 70-130 | 7 | | 20 |
| Tetrachloroethene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Chlorobenzene | 92 | | 98 | | 75-130 | 6 | | 20 |
| Trichlorofluoromethane | 110 | | 120 | | 62-150 | 9 | | 20 |
| 1,2-Dichloroethane | 93 | | 97 | | 70-130 | 4 | | 20 |
| 1,1,1-Trichloroethane | 90 | | 97 | | 67-130 | 7 | | 20 |
| Bromodichloromethane | 91 | | 93 | | 67-130 | 2 | | 20 |
| trans-1,3-Dichloropropene | 79 | | 80 | | 70-130 | 1 | | 20 |
| cis-1,3-Dichloropropene | 90 | | 93 | | 70-130 | 3 | | 20 |
| 1,1-Dichloropropene | 97 | | 100 | | 70-130 | 3 | | 20 |
| Bromoform | 86 | | 93 | | 54-136 | 8 | | 20 |
| 1,1,2,2-Tetrachloroethane | 90 | | 98 | | 67-130 | 9 | | 20 |
| Benzene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Toluene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 94 | | 100 | | 70-130 | 6 | | 20 |
| Chloromethane | 120 | | 120 | | 64-130 | 0 | | 20 |
| Bromomethane | 81 | | 74 | | 39-139 | 9 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 17 Batch: WG1427448-3 WG1427448-4 | | | | | | | | |
| Vinyl chloride | 120 | | 130 | | 55-140 | 8 | | 20 |
| Chloroethane | 120 | | 130 | | 55-138 | 8 | | 20 |
| 1,1-Dichloroethene | 83 | | 88 | | 61-145 | 6 | | 20 |
| trans-1,2-Dichloroethene | 96 | | 100 | | 70-130 | 4 | | 20 |
| Trichloroethene | 87 | | 96 | | 70-130 | 10 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 100 | | 70-130 | 4 | | 20 |
| 1,3-Dichlorobenzene | 98 | | 100 | | 70-130 | 2 | | 20 |
| 1,4-Dichlorobenzene | 96 | | 100 | | 70-130 | 4 | | 20 |
| Methyl tert butyl ether | 77 | | 65 | | 63-130 | 17 | | 20 |
| p/m-Xylene | 95 | | 100 | | 70-130 | 5 | | 20 |
| o-Xylene | 95 | | 100 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 98 | | 99 | | 70-130 | 1 | | 20 |
| Dibromomethane | 92 | | 96 | | 70-130 | 4 | | 20 |
| 1,2,3-Trichloropropane | 89 | | 96 | | 64-130 | 8 | | 20 |
| Acrylonitrile | 92 | | 94 | | 70-130 | 2 | | 20 |
| Styrene | 90 | | 100 | | 70-130 | 11 | | 20 |
| Dichlorodifluoromethane | **150** | Q | **170** | Q | 36-147 | 13 | | 20 |
| Acetone | 85 | | 100 | | 58-148 | 16 | | 20 |
| Carbon disulfide | 94 | | 100 | | 51-130 | 6 | | 20 |
| 2-Butanone | 88 | | 88 | | 63-138 | 0 | | 20 |
| Vinyl acetate | 93 | | 94 | | 70-130 | 1 | | 20 |
| 4-Methyl-2-pentanone | 88 | | 96 | | 59-130 | 9 | | 20 |
| 2-Hexanone | 88 | | 95 | | 57-130 | 8 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 17 Batch: WG1427448-3 WG1427448-4 | | | | | | | | |
| Bromochloromethane | 95 | | 98 | | 70-130 | 3 | | 20 |
| 2,2-Dichloropropane | 99 | | 93 | | 63-133 | 6 | | 20 |
| 1,2-Dibromoethane | 91 | | 95 | | 70-130 | 4 | | 20 |
| 1,3-Dichloropropane | **140** | Q | **140** | Q | 70-130 | 0 | | 20 |
| 1,1,1,2-Tetrachloroethane | 91 | | 95 | | 64-130 | 4 | | 20 |
| Bromobenzene | 96 | | 100 | | 70-130 | 4 | | 20 |
| n-Butylbenzene | 91 | | 94 | | 53-136 | 3 | | 20 |
| sec-Butylbenzene | 94 | | 100 | | 70-130 | 6 | | 20 |
| tert-Butylbenzene | 94 | | 100 | | 70-130 | 6 | | 20 |
| o-Chlorotoluene | 96 | | 100 | | 70-130 | 4 | | 20 |
| p-Chlorotoluene | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,2-Dibromo-3-chloropropane | 84 | | 90 | | 41-144 | 7 | | 20 |
| Hexachlorobutadiene | 98 | | 110 | | 63-130 | 12 | | 20 |
| Isopropylbenzene | 98 | | 110 | | 70-130 | 12 | | 20 |
| p-Isopropyltoluene | 92 | | 96 | | 70-130 | 4 | | 20 |
| Naphthalene | **69** | Q | 75 | | 70-130 | 8 | | 20 |
| n-Propylbenzene | 96 | | 100 | | 69-130 | 4 | | 20 |
| 1,2,3-Trichlorobenzene | 78 | | 86 | | 70-130 | 10 | | 20 |
| 1,2,4-Trichlorobenzene | 89 | | 94 | | 70-130 | 5 | | 20 |
| 1,3,5-Trimethylbenzene | 97 | | 100 | | 64-130 | 3 | | 20 |
| 1,2,4-Trimethylbenzene | 96 | | 100 | | 70-130 | 4 | | 20 |
| 1,4-Dioxane | 68 | | 76 | | 56-162 | 11 | | 20 |
| Freon-113 | 93 | | 100 | | 70-130 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 17 Batch: WG1427448-3 WG1427448-4 | | | | | | | | |
| p-Diethylbenzene | 90 | | 94 | | 70-130 | 4 | | 20 |
| p-Ethyltoluene | 98 | | 100 | | 70-130 | 2 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 89 | | 90 | | 70-130 | 1 | | 20 |
| Ethyl ether | 100 | | 110 | | 59-134 | 10 | | 20 |
| trans-1,4-Dichloro-2-butene | **51** | Q | **51** | Q | 70-130 | 0 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 99 | | 70-130 |
| Toluene-d8 | 102 | | 102 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 102 | | 70-130 |
| Dibromofluoromethane | 99 | | 98 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

## 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(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2044697-01A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-01B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-02A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-02B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-03A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-03B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-04A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-04B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-05A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-05B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-06A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-06B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-07A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-07B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-08A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-08B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-09A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-09B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-09C | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-10A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-10B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-11A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-11B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |



*Values in parentheses indicate holding time in days

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

## Container Information

| Container ID | Container Type | Cooler | Initial pH | Final pH | Temp deg C | Pres | Seal | Frozen Date/Time | Analysis(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2044697-12A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-12B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-13A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-13B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-14A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-14B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-15A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-15B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-16A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-16B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-17A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-17B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-18A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-18B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-19A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-19B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-20A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-20B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-21A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-21B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-22A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-22B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-23A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-23B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-24A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-24B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-25A | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |
| L2044697-25B | Vial HCl preserved | A | NA | | 3.7 | Y | Absent | | NYTCL-8260(14) |



*Values in parentheses indicate holding time in days

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2044697
**Report Date:** 10/29/20

**Container Information**

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



*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2044697 |
| **Project Number:** | 20029 | **Report Date:** | 10/29/20 |

## GLOSSARY

***Acronyms***

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2044697 |
| **Project Number:** | 20029 | **Report Date:** | 10/29/20 |

***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.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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.

**F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

**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

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2044697 |
| **Project Number:** | 20029 | **Report Date:** | 10/29/20 |

***Data Qualifiers***

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.

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2044697 |
| **Project Number:** | 20029 | **Report Date:** | 10/29/20 |

## REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

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

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

# Certification Information

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

**Westborough Facility**
**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene
**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.
**EPA TO-12** Non-methane organics
**EPA 3C** Fixed gases
**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 JERSEY CHAIN OF CUSTODY

ALPHA ANALYTICAL

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

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

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

Page 1 of 3

Date Rec'd in Lab: 10/16/20

ALPHA Job #: L2044697

## Client Information
Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

## Project Information
Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12786

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

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

## Regulatory Requirement
☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☑ Other NYSDOH ELAP

## Billing Information
☑ Same as Client Info
PO # 4697

## Site Information
Is this site impacted by Petroleum? Yes ☐
Petroleum Product:

These samples have been previously analyzed by Alpha ☐

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com

* please include Freon-113

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

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs * | Sample Specific Comments | Total Bottles |
|---|---|---|---|---|---|---|---|---|
| 44697-01 | Flow Lo 0.5 | 10/15/2020 | 8:10 | GW | LC | x | | 2 |
| -02 | Flow Hi 0.5 | 10/15/2020 | 8:15 | GW | LC | x | | 2 |
| -03 | Target Lo 0.5 | 10/15/2020 | 8:20 | GW | LC | x | | 2 |
| -04 | Target Hi 0.5 | 10/15/2020 | 8:25 | GW | LC | x | | 2 |
| -05 | eZVI Lo 0.5 | 10/15/2020 | 8:30 | GW | LC | x | | 2 |
| -06 | eZVI Hi 0.5 | 10/15/2020 | 8:35 | GW | LC | x | | 2 |
| -07 | Ctrl 0.5 | 10/15/2020 | 8:40 | GW | LC | x | | 2 |
| -08 | Ctrl 0.5 dup | 10/15/2020 | 8:45 | GW | LC | x | | 2 |
| -09 | Ctrl D0 dup 2 | 10/14/2020 | 12:00 | GW | LC | x | | 3 |
| 44-10 | | | | | | | | |

Container Type: G
Preservative: B

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

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

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

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| KERRY BURKE | 10/16/20 1:40 | Rob Maestro AM | 10/16/20 1340 |
| Rob Maestro | 10/16/20 2235 | | 10/16/20 2235 |

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.

Form No: 01-14 (rev. 30-Sept-2013)

# NEW JERSEY CHAIN OF CUSTODY

ALPHA ANALYTICAL

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

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

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Page 2 of 3

Date Rec'd in Lab: 10/16/20

ALPHA Job #: L2044697

## Client Information
Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

## Project Information
Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12786

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

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

## Regulatory Requirement
☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☑ Other NYSDOH ELAP

## Billing Information
☑ Same as Client Info
PO # 4697

## Site Information
Is this site impacted by Petroleum? Yes ☐
Petroleum Product:

These samples have been previously analyzed by Alpha ☐

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com

* please include Freon-113

**ANALYSIS**

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

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs * | Sample Specific Comments | Total Bottles |
|---|---|---|---|---|---|---|---|---|
| 44697-10 | Flow Lo D1 | 10/15/2020 | 14:00 | GW | LC | x | | 2 |
| -11 | Flow Hi D1 | 10/15/2020 | 14:05 | GW | LC | x | | 2 |
| -12 | Target Lo D1 | 10/15/2020 | 14:10 | GW | LC | x | | 2 |
| -13 | Target Hi D1 | 10/15/2020 | 14:15 | GW | LC | x | | 2 |
| -14 | eZVI Lo D1 | 10/15/2020 | 14:20 | GW | LC | x | | 2 |
| -15 | eZVI Hi D1 | 10/15/2020 | 14:25 | GW | LC | x | | 2 |
| -16 | ctrl D1 | 10/15/2020 | 14:30 | GW | LC | x | | 2 |
| -17 | ctrl D1 dup | 10/15/2020 | 14:35 | GW | LC | x | | 2 |
| | | | | | | | | |
| | | | | | | | | |

Container Type: G
Preservative: B

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

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

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

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| KERRI BURKE | 10/16 1:40p | Rob Maestro | 10/16/20 1340 |
| Rob Maestro | 10/16/20 2235 | | 10/16/20 2235 |

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.

Form No: 01-14 (rev. 30-Sept-2013)

# NEW JERSEY CHAIN OF CUSTODY

ALPHA ANALYTICAL

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

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

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Page 3 of 3

Date Rec'd in Lab: 10/16/20

ALPHA Job #: L2044697

## Client Information

Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

## Project Information

Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12786

## Turn-Around Time

Standard ☐ Due Date:
Rush (only if pre approved) ☑ # of Days: 2 Day

## Deliverables

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

## Regulatory Requirement

☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☑ Other NYSDOH ELAP

## Billing Information

☑ Same as Client Info
PO # 4697

## Site Information

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

These samples have been previously analyzed by Alpha ☐

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com
* please include Freon-113
2-Day TAT for just these Samples page 3

**ANALYSIS**

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

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs* | Total Bottles | Sample Specific Comments |
|---|---|---|---|---|---|---|---|---|
| 44fe17-18 | Flow Lo D2 | 10/16/2020 | 12:30 | GW | LC | x | 2 | |
| -19 | Flow Hi D2 | 10/16/2020 | 12:35 | GW | LC | x | 2 | |
| -20 | Target Lo D2 | 10/16/2020 | 12:40 | GW | LC | x | 2 | |
| -21 | Target Hi D2 | 10/16/2020 | 12:45 | GW | LC | x | 2 | |
| -22 | eZVI Lo D2 | 10/16/2020 | 12:50 | GW | LC | x | 2 | |
| -23 | eZVI Hi D2 | 10/16/2020 | 12:55 | GW | LC | x | 2 | |
| -24 | ctrl D2 | 10/16/2020 | 13:00 | GW | LC | x | 2 | |
| -25 | ctrl D2 dup | 10/16/2020 | 13:05 | GW | LC | x | 2 | |
| | | | | | | | | |
| | | | | | | | | |

Container Type: G
Preservative: B

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

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

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

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| KERRY PRICE | 10/16 1:40 | Rob Maesto | 10/16/20 1340 |
| Rob Maesto | 10/16/20 2235 | | 10/16/20 2235 |

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.

Form No: 01-14 (rev. 30-Sept-2013)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L2045017 |
| Client: | XDD Environmental<br>Mary Scudieri<br>22 Marin Way Unit 3<br>Stratham, NH 03885 |
| ATTN: | Laurel Crawford |
| Phone: | (603) 778-1100 |
| Project Name: | FESL |
| Project Number: | 20029 |
| Report Date: | 10/23/20 |



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:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|---|---|---|---|---|---|
| L2045017-01 | FLOW LO D3 | WATER | ROCHESTER, NY | 10/17/20 15:00 | 10/19/20 |
| L2045017-02 | FLOW HI D3 | WATER | ROCHESTER, NY | 10/17/20 15:05 | 10/19/20 |
| L2045017-03 | TARGET LO D3 | WATER | ROCHESTER, NY | 10/17/20 15:10 | 10/19/20 |
| L2045017-04 | TARGET HI D3 | WATER | ROCHESTER, NY | 10/17/20 15:15 | 10/19/20 |
| L2045017-05 | EZVI LO D3 | WATER | ROCHESTER, NY | 10/17/20 15:20 | 10/19/20 |
| L2045017-06 | EZVI HI D3 | WATER | ROCHESTER, NY | 10/17/20 15:25 | 10/19/20 |
| L2045017-07 | CTRL D3 | WATER | ROCHESTER, NY | 10/17/20 15:30 | 10/19/20 |
| L2045017-08 | CTRL D3 DUP | WATER | ROCHESTER, NY | 10/17/20 15:35 | 10/19/20 |
| L2045017-09 | FLOW LO D4 | WATER | ROCHESTER, NY | 10/18/20 13:00 | 10/19/20 |
| L2045017-10 | FLOW HI D4 | WATER | ROCHESTER, NY | 10/18/20 13:05 | 10/19/20 |
| L2045017-11 | TARGET LO D4 | WATER | ROCHESTER, NY | 10/18/20 13:10 | 10/19/20 |
| L2045017-12 | TARGET HI D4 | WATER | ROCHESTER, NY | 10/18/20 13:15 | 10/19/20 |
| L2045017-13 | EZVI LO D4 | WATER | ROCHESTER, NY | 10/18/20 13:20 | 10/19/20 |
| L2045017-14 | EZVI HI D4 | WATER | ROCHESTER, NY | 10/18/20 13:25 | 10/19/20 |
| L2045017-15 | CTRL D4 | WATER | ROCHESTER, NY | 10/18/20 13:30 | 10/19/20 |
| L2045017-16 | CTRL D4 DUP | WATER | ROCHESTER, NY | 10/18/20 13:35 | 10/19/20 |
| L2045017-17 | FLOW LO D5 | WATER | ROCHESTER, NY | 10/19/20 13:40 | 10/19/20 |
| L2045017-18 | FLOW HI D5 | WATER | ROCHESTER, NY | 10/19/20 13:45 | 10/19/20 |
| L2045017-19 | TARGET LO D5 | WATER | ROCHESTER, NY | 10/19/20 13:50 | 10/19/20 |
| L2045017-20 | TARGET HI D5 | WATER | ROCHESTER, NY | 10/19/20 13:55 | 10/19/20 |
| L2045017-21 | EZVI LO D5 | WATER | ROCHESTER, NY | 10/19/20 14:00 | 10/19/20 |
| L2045017-22 | EZVI HI D5 | WATER | ROCHESTER, NY | 10/19/20 14:05 | 10/19/20 |
| L2045017-23 | CTRL D5 | WATER | ROCHESTER, NY | 10/19/20 14:10 | 10/19/20 |
| L2045017-24 | CTRL D5 DUP | WATER | ROCHESTER, NY | 10/19/20 14:15 | 10/19/20 |

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2045017 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

## 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:** | FESL | **Lab Number:** | L2045017 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

**Case Narrative (continued)**

Report Submission

October 23, 2020: This final report includes the results of all requested analyses.

October 20, 2020: 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

L2045017-05 and -06: The sample has elevated detection limits due to the dilution required by the sample matrix (white, cloudy).

L2045017-05, -06, and -22: The pH of the sample was greater than two; however, the sample was analyzed within the method required holding time.

L2045017-06: The surrogate recovery was outside the method acceptance criteria for 4-bromofluorobenzene (133%) due to interference with the Internal Standard.

L2045017-06: The analysis was performed utilizing a compromised vial.

L2045017-13, -14, and -21: The sample has elevated detection limits due to the dilution required by the sample matrix (milky, cloudy).

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: 10/23/20

# ORGANICS

# VOLATILES

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-01 D
Client ID: FLOW LO D3
Sample Location: ROCHESTER, NY

Date Collected: 10/17/20 15:00
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/22/20 13:29
Analyst: MKS

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 620 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 120 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 230 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 5.5 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 18 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 330 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 160 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 6.7 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 6.8 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-01 D Date Collected: 10/17/20 15:00

Client ID: FLOW LO D3 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 18 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 4.8 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 4.8 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 640 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 650 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 27 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 15 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-01 D Date Collected: 10/17/20 15:00

Client ID: FLOW LO D3 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 100 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 9.8 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 94 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-02 D
Client ID: FLOW HI D3
Sample Location: ROCHESTER, NY

Date Collected: 10/17/20 15:05
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/22/20 13:54
Analyst: MKS

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 610 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 82 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 120 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 5.4 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 15 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 290 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 160 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 4.8 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 4.4 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-02 D Date Collected: 10/17/20 15:05

Client ID: FLOW HI D3 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 12 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 3.8 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 3.8 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 560 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 560 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 33 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 16 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-02 D Date Collected: 10/17/20 15:05

Client ID: FLOW HI D3 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 79 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 9.3 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-03 D
Client ID: TARGET LO D3
Sample Location: ROCHESTER, NY

Date Collected: 10/17/20 15:10
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/22/20 14:19
Analyst: MKS

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 590 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 100 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 51 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 6.2 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 19 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 280 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 150 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 5.1 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 4.4 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-03 D Date Collected: 10/17/20 15:10
Client ID: TARGET LO D3 Date Received: 10/19/20
Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 14 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 4.9 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 4.9 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 580 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 580 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 33 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 18 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-03 D Date Collected: 10/17/20 15:10

Client ID: TARGET LO D3 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 78 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 10 | | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 93 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-04 D
Client ID: TARGET HI D3
Sample Location: ROCHESTER, NY

Date Collected: 10/17/20 15:15
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/22/20 14:45
Analyst: MKS

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 620 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 79 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 12 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 7.4 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 20 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 240 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 160 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 3.6 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 3.4 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-04 D Date Collected: 10/17/20 15:15

Client ID: TARGET HI D3 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 11 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 4.9 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 4.9 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 500 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 500 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 39 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 24 | | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-04 D
Client ID: TARGET HI D3
Sample Location: ROCHESTER, NY

Date Collected: 10/17/20 15:15
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 43 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 9.9 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 94 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-05 D
Client ID: EZVI LO D3
Sample Location: ROCHESTER, NY

Date Collected: 10/17/20 15:20
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/22/20 16:01
Analyst: MKS

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 50 | 14. | 20 |
| 1,1-Dichloroethane | 620 | | ug/l | 50 | 14. | 20 |
| Chloroform | ND | | ug/l | 50 | 14. | 20 |
| Carbon tetrachloride | ND | | ug/l | 10 | 2.7 | 20 |
| 1,2-Dichloropropane | ND | | ug/l | 20 | 2.7 | 20 |
| Dibromochloromethane | ND | | ug/l | 10 | 3.0 | 20 |
| 1,1,2-Trichloroethane | ND | | ug/l | 30 | 10. | 20 |
| Tetrachloroethene | 230 | | ug/l | 10 | 3.6 | 20 |
| Chlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| Trichlorofluoromethane | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dichloroethane | ND | | ug/l | 10 | 2.6 | 20 |
| 1,1,1-Trichloroethane | 150 | | ug/l | 50 | 14. | 20 |
| Bromodichloromethane | ND | | ug/l | 10 | 3.8 | 20 |
| trans-1,3-Dichloropropene | ND | | ug/l | 10 | 3.3 | 20 |
| cis-1,3-Dichloropropene | ND | | ug/l | 10 | 2.9 | 20 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 10 | 2.9 | 20 |
| 1,1-Dichloropropene | ND | | ug/l | 50 | 14. | 20 |
| Bromoform | ND | | ug/l | 40 | 13. | 20 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 10 | 3.3 | 20 |
| Benzene | 6.8 | J | ug/l | 10 | 3.2 | 20 |
| Toluene | 30 | J | ug/l | 50 | 14. | 20 |
| Ethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| Chloromethane | ND | | ug/l | 50 | 14. | 20 |
| Bromomethane | ND | | ug/l | 50 | 14. | 20 |
| Vinyl chloride | 360 | | ug/l | 20 | 1.4 | 20 |
| Chloroethane | 160 | | ug/l | 50 | 14. | 20 |
| 1,1-Dichloroethene | 9.7 | J | ug/l | 10 | 3.4 | 20 |
| trans-1,2-Dichloroethene | ND | | ug/l | 50 | 14. | 20 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-05 D Date Collected: 10/17/20 15:20

Client ID: EZVI LO D3 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 26 | | ug/l | 10 | 3.5 | 20 |
| 1,2-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,3-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,4-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| Methyl tert butyl ether | ND | | ug/l | 50 | 14. | 20 |
| p/m-Xylene | ND | | ug/l | 50 | 14. | 20 |
| o-Xylene | ND | | ug/l | 50 | 14. | 20 |
| Xylenes, Total | ND | | ug/l | 50 | 14. | 20 |
| cis-1,2-Dichloroethene | 660 | | ug/l | 50 | 14. | 20 |
| 1,2-Dichloroethene, Total | 660 | | ug/l | 50 | 14. | 20 |
| Dibromomethane | ND | | ug/l | 100 | 20. | 20 |
| 1,2,3-Trichloropropane | ND | | ug/l | 50 | 14. | 20 |
| Acrylonitrile | ND | | ug/l | 100 | 30. | 20 |
| Styrene | ND | | ug/l | 50 | 14. | 20 |
| Dichlorodifluoromethane | ND | | ug/l | 100 | 20. | 20 |
| Acetone | 56 | J | ug/l | 100 | 29. | 20 |
| Carbon disulfide | ND | | ug/l | 100 | 20. | 20 |
| 2-Butanone | 370 | | ug/l | 100 | 39. | 20 |
| Vinyl acetate | ND | | ug/l | 100 | 20. | 20 |
| 4-Methyl-2-pentanone | ND | | ug/l | 100 | 20. | 20 |
| 2-Hexanone | ND | | ug/l | 100 | 20. | 20 |
| Bromochloromethane | ND | | ug/l | 50 | 14. | 20 |
| 2,2-Dichloropropane | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dibromoethane | ND | | ug/l | 40 | 13. | 20 |
| 1,3-Dichloropropane | ND | | ug/l | 50 | 14. | 20 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 50 | 14. | 20 |
| Bromobenzene | ND | | ug/l | 50 | 14. | 20 |
| n-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| sec-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| tert-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| o-Chlorotoluene | ND | | ug/l | 50 | 14. | 20 |
| p-Chlorotoluene | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 50 | 14. | 20 |
| Hexachlorobutadiene | ND | | ug/l | 50 | 14. | 20 |
| Isopropylbenzene | ND | | ug/l | 50 | 14. | 20 |
| p-Isopropyltoluene | ND | | ug/l | 50 | 14. | 20 |
| Naphthalene | ND | | ug/l | 50 | 14. | 20 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-05 D Date Collected: 10/17/20 15:20

Client ID: EZVI LO D3 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,4-Dioxane | ND | | ug/l | 5000 | 1200 | 20 |
| Freon-113 | 290 | | ug/l | 50 | 14. | 20 |
| p-Diethylbenzene | ND | | ug/l | 40 | 14. | 20 |
| p-Ethyltoluene | ND | | ug/l | 40 | 14. | 20 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 40 | 11. | 20 |
| Ethyl ether | ND | | ug/l | 50 | 14. | 20 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 50 | 14. | 20 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-06 D
Client ID: EZVI HI D3
Sample Location: ROCHESTER, NY

Date Collected: 10/17/20 15:25
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/23/20 12:39
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 50 | 14. | 20 |
| 1,1-Dichloroethane | 410 | | ug/l | 50 | 14. | 20 |
| Chloroform | ND | | ug/l | 50 | 14. | 20 |
| Carbon tetrachloride | ND | | ug/l | 10 | 2.7 | 20 |
| 1,2-Dichloropropane | ND | | ug/l | 20 | 2.7 | 20 |
| Dibromochloromethane | ND | | ug/l | 10 | 3.0 | 20 |
| 1,1,2-Trichloroethane | ND | | ug/l | 30 | 10. | 20 |
| Tetrachloroethene | 130 | | ug/l | 10 | 3.6 | 20 |
| Chlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| Trichlorofluoromethane | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dichloroethane | ND | | ug/l | 10 | 2.6 | 20 |
| 1,1,1-Trichloroethane | 91 | | ug/l | 50 | 14. | 20 |
| Bromodichloromethane | ND | | ug/l | 10 | 3.8 | 20 |
| trans-1,3-Dichloropropene | ND | | ug/l | 10 | 3.3 | 20 |
| cis-1,3-Dichloropropene | ND | | ug/l | 10 | 2.9 | 20 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 10 | 2.9 | 20 |
| 1,1-Dichloropropene | ND | | ug/l | 50 | 14. | 20 |
| Bromoform | ND | | ug/l | 40 | 13. | 20 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 10 | 3.3 | 20 |
| Benzene | 5.5 | J | ug/l | 10 | 3.2 | 20 |
| Toluene | 28 | J | ug/l | 50 | 14. | 20 |
| Ethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| Chloromethane | ND | | ug/l | 50 | 14. | 20 |
| Bromomethane | ND | | ug/l | 50 | 14. | 20 |
| Vinyl chloride | 270 | | ug/l | 20 | 1.4 | 20 |
| Chloroethane | 140 | | ug/l | 50 | 14. | 20 |
| 1,1-Dichloroethene | 5.2 | J | ug/l | 10 | 3.4 | 20 |
| trans-1,2-Dichloroethene | ND | | ug/l | 50 | 14. | 20 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-06 D
Client ID: EZVI HI D3
Sample Location: ROCHESTER, NY

Date Collected: 10/17/20 15:25
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 15 | | ug/l | 10 | 3.5 | 20 |
| 1,2-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,3-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,4-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| Methyl tert butyl ether | ND | | ug/l | 50 | 14. | 20 |
| p/m-Xylene | 16 | J | ug/l | 50 | 14. | 20 |
| o-Xylene | ND | | ug/l | 50 | 14. | 20 |
| Xylenes, Total | 16 | J | ug/l | 50 | 14. | 20 |
| cis-1,2-Dichloroethene | 410 | | ug/l | 50 | 14. | 20 |
| 1,2-Dichloroethene, Total | 410 | | ug/l | 50 | 14. | 20 |
| Dibromomethane | ND | | ug/l | 100 | 20. | 20 |
| 1,2,3-Trichloropropane | ND | | ug/l | 50 | 14. | 20 |
| Acrylonitrile | ND | | ug/l | 100 | 30. | 20 |
| Styrene | ND | | ug/l | 50 | 14. | 20 |
| Dichlorodifluoromethane | ND | | ug/l | 100 | 20. | 20 |
| Acetone | 120 | | ug/l | 100 | 29. | 20 |
| Carbon disulfide | ND | | ug/l | 100 | 20. | 20 |
| 2-Butanone | 1500 | | ug/l | 100 | 39. | 20 |
| Vinyl acetate | ND | | ug/l | 100 | 20. | 20 |
| 4-Methyl-2-pentanone | ND | | ug/l | 100 | 20. | 20 |
| 2-Hexanone | ND | | ug/l | 100 | 20. | 20 |
| Bromochloromethane | ND | | ug/l | 50 | 14. | 20 |
| 2,2-Dichloropropane | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dibromoethane | ND | | ug/l | 40 | 13. | 20 |
| 1,3-Dichloropropane | ND | | ug/l | 50 | 14. | 20 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 50 | 14. | 20 |
| Bromobenzene | ND | | ug/l | 50 | 14. | 20 |
| n-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| sec-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| tert-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| o-Chlorotoluene | ND | | ug/l | 50 | 14. | 20 |
| p-Chlorotoluene | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 50 | 14. | 20 |
| Hexachlorobutadiene | ND | | ug/l | 50 | 14. | 20 |
| Isopropylbenzene | ND | | ug/l | 50 | 14. | 20 |
| p-Isopropyltoluene | ND | | ug/l | 50 | 14. | 20 |
| Naphthalene | ND | | ug/l | 50 | 14. | 20 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-06 D Date Collected: 10/17/20 15:25

Client ID: EZVI HI D3 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,4-Dioxane | ND | | ug/l | 5000 | 1200 | 20 |
| Freon-113 | 190 | | ug/l | 50 | 14. | 20 |
| p-Diethylbenzene | ND | | ug/l | 40 | 14. | 20 |
| p-Ethyltoluene | ND | | ug/l | 40 | 14. | 20 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 40 | 11. | 20 |
| Ethyl ether | ND | | ug/l | 50 | 14. | 20 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 50 | 14. | 20 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | **133** | Q | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-07 D
Client ID: CTRL D3
Sample Location: ROCHESTER, NY

Date Collected: 10/17/20 15:30
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/22/20 15:10
Analyst: MKS

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 640 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 130 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 300 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 4.9 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 14 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 380 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 170 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 8.4 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 7.8 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-07 D Date Collected: 10/17/20 15:30

Client ID: CTRL D3 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 23 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | ND | | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 690 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 700 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 29 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 13 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-07 D Date Collected: 10/17/20 15:30

Client ID: CTRL D3 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 120 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 10 | | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 93 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-08 D
Client ID: CTRL D3 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/17/20 15:35
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/22/20 15:36
Analyst: MKS

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 640 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 130 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 300 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 4.8 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 13 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 380 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 170 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 8.2 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 7.5 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-08 D
Client ID: CTRL D3 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/17/20 15:35
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 22 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | ND | | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 700 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 710 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 28 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 11 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-08 D Date Collected: 10/17/20 15:35

Client ID: CTRL D3 DUP Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 110 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 10 | | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 94 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-09 D
Client ID: FLOW LO D4
Sample Location: ROCHESTER, NY

Date Collected: 10/18/20 13:00
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:30
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 600 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 120 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 190 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 5.5 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 18 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 340 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 97 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 6.4 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 6.5 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-09 D Date Collected: 10/18/20 13:00

Client ID: FLOW LO D4 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 17 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 5.0 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 5.0 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 580 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 590 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 16 | J | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | ND | | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-09 D Date Collected: 10/18/20 13:00

Client ID: FLOW LO D4 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 100 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 5.6 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-10 D
Client ID: FLOW HI D4
Sample Location: ROCHESTER, NY

Date Collected: 10/18/20 13:05
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:53
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 600 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 89 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 88 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 5.4 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 16 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 300 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 97 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 3.9 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 3.8 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-10 D Date Collected: 10/18/20 13:05

Client ID: FLOW HI D4 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 10 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 4.0 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 4.0 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 500 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 500 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 22 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 11 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-10 D Date Collected: 10/18/20 13:05

Client ID: FLOW HI D4 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 77 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 5.7 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-11 D
Client ID: TARGET LO D4
Sample Location: ROCHESTER, NY

Date Collected: 10/18/20 13:10
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 09:17
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 610 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 120 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 39 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 6.4 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 21 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 330 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 100 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 5.2 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 5.3 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-11 D Date Collected: 10/18/20 13:10

Client ID: TARGET LO D4 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 13 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 5.6 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 5.6 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 570 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 580 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 15 | J | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 11 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-11 D Date Collected: 10/18/20 13:10

Client ID: TARGET LO D4 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 84 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 5.4 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-12 D
Client ID: TARGET HI D4
Sample Location: ROCHESTER, NY

Date Collected: 10/18/20 13:15
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 09:40
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 610 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 89 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 4.5 | J | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 7.5 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 22 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 230 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 100 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 2.8 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-12 D Date Collected: 10/18/20 13:15

Client ID: TARGET HI D4 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 9.2 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 5.6 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 5.6 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 440 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 440 | | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 19 | J | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 14 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-12 D Date Collected: 10/18/20 13:15

Client ID: TARGET HI D4 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 37 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 5.7 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-13 D
Client ID: EZVI LO D4
Sample Location: ROCHESTER, NY

Date Collected: 10/18/20 13:20
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:25
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 50 | 14. | 20 |
| 1,1-Dichloroethane | 560 | | ug/l | 50 | 14. | 20 |
| Chloroform | ND | | ug/l | 50 | 14. | 20 |
| Carbon tetrachloride | ND | | ug/l | 10 | 2.7 | 20 |
| 1,2-Dichloropropane | ND | | ug/l | 20 | 2.7 | 20 |
| Dibromochloromethane | ND | | ug/l | 10 | 3.0 | 20 |
| 1,1,2-Trichloroethane | ND | | ug/l | 30 | 10. | 20 |
| Tetrachloroethene | 220 | | ug/l | 10 | 3.6 | 20 |
| Chlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| Trichlorofluoromethane | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dichloroethane | ND | | ug/l | 10 | 2.6 | 20 |
| 1,1,1-Trichloroethane | 140 | | ug/l | 50 | 14. | 20 |
| Bromodichloromethane | ND | | ug/l | 10 | 3.8 | 20 |
| trans-1,3-Dichloropropene | ND | | ug/l | 10 | 3.3 | 20 |
| cis-1,3-Dichloropropene | ND | | ug/l | 10 | 2.9 | 20 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 10 | 2.9 | 20 |
| 1,1-Dichloropropene | ND | | ug/l | 50 | 14. | 20 |
| Bromoform | ND | | ug/l | 40 | 13. | 20 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 10 | 3.3 | 20 |
| Benzene | 6.0 | J | ug/l | 10 | 3.2 | 20 |
| Toluene | 29 | J | ug/l | 50 | 14. | 20 |
| Ethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| Chloromethane | ND | | ug/l | 50 | 14. | 20 |
| Bromomethane | ND | | ug/l | 50 | 14. | 20 |
| Vinyl chloride | 350 | | ug/l | 20 | 1.4 | 20 |
| Chloroethane | 210 | | ug/l | 50 | 14. | 20 |
| 1,1-Dichloroethene | 7.3 | J | ug/l | 10 | 3.4 | 20 |
| trans-1,2-Dichloroethene | ND | | ug/l | 50 | 14. | 20 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-13 D Date Collected: 10/18/20 13:20
Client ID: EZVI LO D4 Date Received: 10/19/20
Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 24 | | ug/l | 10 | 3.5 | 20 |
| 1,2-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,3-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,4-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| Methyl tert butyl ether | ND | | ug/l | 50 | 14. | 20 |
| p/m-Xylene | ND | | ug/l | 50 | 14. | 20 |
| o-Xylene | ND | | ug/l | 50 | 14. | 20 |
| Xylenes, Total | ND | | ug/l | 50 | 14. | 20 |
| cis-1,2-Dichloroethene | 580 | | ug/l | 50 | 14. | 20 |
| 1,2-Dichloroethene, Total | 580 | | ug/l | 50 | 14. | 20 |
| Dibromomethane | ND | | ug/l | 100 | 20. | 20 |
| 1,2,3-Trichloropropane | ND | | ug/l | 50 | 14. | 20 |
| Acrylonitrile | ND | | ug/l | 100 | 30. | 20 |
| Styrene | ND | | ug/l | 50 | 14. | 20 |
| Dichlorodifluoromethane | ND | | ug/l | 100 | 20. | 20 |
| Acetone | 54 | J | ug/l | 100 | 29. | 20 |
| Carbon disulfide | ND | | ug/l | 100 | 20. | 20 |
| 2-Butanone | 310 | | ug/l | 100 | 39. | 20 |
| Vinyl acetate | ND | | ug/l | 100 | 20. | 20 |
| 4-Methyl-2-pentanone | ND | | ug/l | 100 | 20. | 20 |
| 2-Hexanone | ND | | ug/l | 100 | 20. | 20 |
| Bromochloromethane | ND | | ug/l | 50 | 14. | 20 |
| 2,2-Dichloropropane | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dibromoethane | ND | | ug/l | 40 | 13. | 20 |
| 1,3-Dichloropropane | ND | | ug/l | 50 | 14. | 20 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 50 | 14. | 20 |
| Bromobenzene | ND | | ug/l | 50 | 14. | 20 |
| n-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| sec-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| tert-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| o-Chlorotoluene | ND | | ug/l | 50 | 14. | 20 |
| p-Chlorotoluene | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 50 | 14. | 20 |
| Hexachlorobutadiene | ND | | ug/l | 50 | 14. | 20 |
| Isopropylbenzene | ND | | ug/l | 50 | 14. | 20 |
| p-Isopropyltoluene | ND | | ug/l | 50 | 14. | 20 |
| Naphthalene | ND | | ug/l | 50 | 14. | 20 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-13 D Date Collected: 10/18/20 13:20

Client ID: EZVI LO D4 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,4-Dioxane | ND | | ug/l | 5000 | 1200 | 20 |
| Freon-113 | 290 | | ug/l | 50 | 14. | 20 |
| p-Diethylbenzene | ND | | ug/l | 40 | 14. | 20 |
| p-Ethyltoluene | ND | | ug/l | 40 | 14. | 20 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 40 | 11. | 20 |
| Ethyl ether | ND | | ug/l | 50 | 14. | 20 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 50 | 14. | 20 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 114 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-14 D
Client ID: EZVI HI D4
Sample Location: ROCHESTER, NY

Date Collected: 10/18/20 13:25
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:47
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 50 | 14. | 20 |
| 1,1-Dichloroethane | 280 | | ug/l | 50 | 14. | 20 |
| Chloroform | ND | | ug/l | 50 | 14. | 20 |
| Carbon tetrachloride | ND | | ug/l | 10 | 2.7 | 20 |
| 1,2-Dichloropropane | ND | | ug/l | 20 | 2.7 | 20 |
| Dibromochloromethane | ND | | ug/l | 10 | 3.0 | 20 |
| 1,1,2-Trichloroethane | ND | | ug/l | 30 | 10. | 20 |
| Tetrachloroethene | 57 | | ug/l | 10 | 3.6 | 20 |
| Chlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| Trichlorofluoromethane | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dichloroethane | ND | | ug/l | 10 | 2.6 | 20 |
| 1,1,1-Trichloroethane | 40 | J | ug/l | 50 | 14. | 20 |
| Bromodichloromethane | ND | | ug/l | 10 | 3.8 | 20 |
| trans-1,3-Dichloropropene | ND | | ug/l | 10 | 3.3 | 20 |
| cis-1,3-Dichloropropene | ND | | ug/l | 10 | 2.9 | 20 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 10 | 2.9 | 20 |
| 1,1-Dichloropropene | ND | | ug/l | 50 | 14. | 20 |
| Bromoform | ND | | ug/l | 40 | 13. | 20 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 10 | 3.3 | 20 |
| Benzene | ND | | ug/l | 10 | 3.2 | 20 |
| Toluene | ND | | ug/l | 50 | 14. | 20 |
| Ethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| Chloromethane | ND | | ug/l | 50 | 14. | 20 |
| Bromomethane | ND | | ug/l | 50 | 14. | 20 |
| Vinyl chloride | 230 | | ug/l | 20 | 1.4 | 20 |
| Chloroethane | 130 | | ug/l | 50 | 14. | 20 |
| 1,1-Dichloroethene | ND | | ug/l | 10 | 3.4 | 20 |
| trans-1,2-Dichloroethene | ND | | ug/l | 50 | 14. | 20 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-14 D Date Collected: 10/18/20 13:25

Client ID: EZVI HI D4 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 8.3 | J | ug/l | 10 | 3.5 | 20 |
| 1,2-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,3-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,4-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| Methyl tert butyl ether | ND | | ug/l | 50 | 14. | 20 |
| p/m-Xylene | ND | | ug/l | 50 | 14. | 20 |
| o-Xylene | ND | | ug/l | 50 | 14. | 20 |
| Xylenes, Total | ND | | ug/l | 50 | 14. | 20 |
| cis-1,2-Dichloroethene | 280 | | ug/l | 50 | 14. | 20 |
| 1,2-Dichloroethene, Total | 280 | | ug/l | 50 | 14. | 20 |
| Dibromomethane | ND | | ug/l | 100 | 20. | 20 |
| 1,2,3-Trichloropropane | ND | | ug/l | 50 | 14. | 20 |
| Acrylonitrile | ND | | ug/l | 100 | 30. | 20 |
| Styrene | ND | | ug/l | 50 | 14. | 20 |
| Dichlorodifluoromethane | ND | | ug/l | 100 | 20. | 20 |
| Acetone | 85 | J | ug/l | 100 | 29. | 20 |
| Carbon disulfide | ND | | ug/l | 100 | 20. | 20 |
| 2-Butanone | 1500 | | ug/l | 100 | 39. | 20 |
| Vinyl acetate | ND | | ug/l | 100 | 20. | 20 |
| 4-Methyl-2-pentanone | ND | | ug/l | 100 | 20. | 20 |
| 2-Hexanone | ND | | ug/l | 100 | 20. | 20 |
| Bromochloromethane | ND | | ug/l | 50 | 14. | 20 |
| 2,2-Dichloropropane | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dibromoethane | ND | | ug/l | 40 | 13. | 20 |
| 1,3-Dichloropropane | ND | | ug/l | 50 | 14. | 20 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 50 | 14. | 20 |
| Bromobenzene | ND | | ug/l | 50 | 14. | 20 |
| n-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| sec-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| tert-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| o-Chlorotoluene | ND | | ug/l | 50 | 14. | 20 |
| p-Chlorotoluene | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 50 | 14. | 20 |
| Hexachlorobutadiene | ND | | ug/l | 50 | 14. | 20 |
| Isopropylbenzene | ND | | ug/l | 50 | 14. | 20 |
| p-Isopropyltoluene | ND | | ug/l | 50 | 14. | 20 |
| Naphthalene | ND | | ug/l | 50 | 14. | 20 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-14 D Date Collected: 10/18/20 13:25

Client ID: EZVI HI D4 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,4-Dioxane | ND | | ug/l | 5000 | 1200 | 20 |
| Freon-113 | 85 | | ug/l | 50 | 14. | 20 |
| p-Diethylbenzene | ND | | ug/l | 40 | 14. | 20 |
| p-Ethyltoluene | ND | | ug/l | 40 | 14. | 20 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 40 | 11. | 20 |
| Ethyl ether | ND | | ug/l | 50 | 14. | 20 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 50 | 14. | 20 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 119 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-15 D
Client ID: CTRL D4
Sample Location: ROCHESTER, NY

Date Collected: 10/18/20 13:30
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 10:03
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 590 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 140 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 270 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 4.6 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 14 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 370 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 100 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 7.1 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 7.6 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-15 D Date Collected: 10/18/20 13:30

Client ID: CTRL D4 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 21 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 3.4 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 3.4 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 600 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 610 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 22 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | ND | | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-15 D Date Collected: 10/18/20 13:30

Client ID: CTRL D4 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 110 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 6.2 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-16 D
Client ID: CTRL D4 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/18/20 13:35
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 10:26
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 600 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 140 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 270 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 3.8 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 10 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 370 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 100 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 7.0 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 7.6 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-16 D Date Collected: 10/18/20 13:35

Client ID: CTRL D4 DUP Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 21 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | ND | | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 600 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 610 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 17 | J | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | ND | | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-16 D Date Collected: 10/18/20 13:35

Client ID: CTRL D4 DUP Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 100 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 5.8 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 97 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-17 D
Client ID: FLOW LO D5
Sample Location: ROCHESTER, NY

Date Collected: 10/19/20 13:40
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 09:08
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 600 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 100 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 160 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 5.7 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 19 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 370 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 180 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 7.4 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 6.1 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-17 D
Client ID: FLOW LO D5
Sample Location: ROCHESTER, NY

Date Collected: 10/19/20 13:40
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 15 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 4.8 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 4.8 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 610 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 620 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 18 | J | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 12 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-17 D Date Collected: 10/19/20 13:40

Client ID: FLOW LO D5 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 110 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 10 | | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-18 D
Client ID: FLOW HI D5
Sample Location: ROCHESTER, NY

Date Collected: 10/19/20 13:45
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 09:30
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 600 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 79 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 63 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 5.5 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 16 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 290 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 190 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 3.9 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 2.9 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-18 D Date Collected: 10/19/20 13:45

Client ID: FLOW HI D5 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 8.4 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | 2.8 | J | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 3.9 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 6.7 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 480 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 480 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | 5.4 | J | ug/l | 20 | 4.0 | 4 |
| Acetone | 30 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 13 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-18 D Date Collected: 10/19/20 13:45

Client ID: FLOW HI D5 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 74 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 9.0 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-19 D
Client ID: TARGET LO D5
Sample Location: ROCHESTER, NY

Date Collected: 10/19/20 13:50
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 09:52
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 620 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 100 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 16 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 6.8 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 21 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 320 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 190 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 4.5 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 4.3 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-19 D Date Collected: 10/19/20 13:50
Client ID: TARGET LO D5 Date Received: 10/19/20
Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 10 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 5.7 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 5.7 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 570 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 570 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | 7.4 | J | ug/l | 20 | 4.0 | 4 |
| Acetone | 24 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 14 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-19 D Date Collected: 10/19/20 13:50

Client ID: TARGET LO D5 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 67 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 9.6 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-20 D
Client ID: TARGET HI D5
Sample Location: ROCHESTER, NY

Date Collected: 10/19/20 13:55
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 10:13
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 590 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 60 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 7.5 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 21 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 190 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 200 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 1.7 | J | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-20 D
Client ID: TARGET HI D5
Sample Location: ROCHESTER, NY

Date Collected: 10/19/20 13:55
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 6.6 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 5.1 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 5.1 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 360 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 360 | | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | 7.8 | J | ug/l | 25 | 5.0 | 5 |
| Acetone | 27 | | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 18 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-20 D Date Collected: 10/19/20 13:55

Client ID: TARGET HI D5 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 27 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 9.3 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-21 D
Client ID: EZVI LO D5
Sample Location: ROCHESTER, NY

Date Collected: 10/19/20 14:00
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:40
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 50 | 14. | 20 |
| 1,1-Dichloroethane | 640 | | ug/l | 50 | 14. | 20 |
| Chloroform | ND | | ug/l | 50 | 14. | 20 |
| Carbon tetrachloride | ND | | ug/l | 10 | 2.7 | 20 |
| 1,2-Dichloropropane | ND | | ug/l | 20 | 2.7 | 20 |
| Dibromochloromethane | ND | | ug/l | 10 | 3.0 | 20 |
| 1,1,2-Trichloroethane | ND | | ug/l | 30 | 10. | 20 |
| Tetrachloroethene | 240 | | ug/l | 10 | 3.6 | 20 |
| Chlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| Trichlorofluoromethane | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dichloroethane | ND | | ug/l | 10 | 2.6 | 20 |
| 1,1,1-Trichloroethane | 140 | | ug/l | 50 | 14. | 20 |
| Bromodichloromethane | ND | | ug/l | 10 | 3.8 | 20 |
| trans-1,3-Dichloropropene | ND | | ug/l | 10 | 3.3 | 20 |
| cis-1,3-Dichloropropene | ND | | ug/l | 10 | 2.9 | 20 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 10 | 2.9 | 20 |
| 1,1-Dichloropropene | ND | | ug/l | 50 | 14. | 20 |
| Bromoform | ND | | ug/l | 40 | 13. | 20 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 10 | 3.3 | 20 |
| Benzene | 7.0 | J | ug/l | 10 | 3.2 | 20 |
| Toluene | 32 | J | ug/l | 50 | 14. | 20 |
| Ethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| Chloromethane | ND | | ug/l | 50 | 14. | 20 |
| Bromomethane | ND | | ug/l | 50 | 14. | 20 |
| Vinyl chloride | 380 | | ug/l | 20 | 1.4 | 20 |
| Chloroethane | 170 | | ug/l | 50 | 14. | 20 |
| 1,1-Dichloroethene | 9.5 | J | ug/l | 10 | 3.4 | 20 |
| trans-1,2-Dichloroethene | ND | | ug/l | 50 | 14. | 20 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-21 D Date Collected: 10/19/20 14:00

Client ID: EZVI LO D5 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 27 | | ug/l | 10 | 3.5 | 20 |
| 1,2-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,3-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,4-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| Methyl tert butyl ether | ND | | ug/l | 50 | 14. | 20 |
| p/m-Xylene | ND | | ug/l | 50 | 14. | 20 |
| o-Xylene | ND | | ug/l | 50 | 14. | 20 |
| Xylenes, Total | ND | | ug/l | 50 | 14. | 20 |
| cis-1,2-Dichloroethene | 680 | | ug/l | 50 | 14. | 20 |
| 1,2-Dichloroethene, Total | 680 | | ug/l | 50 | 14. | 20 |
| Dibromomethane | ND | | ug/l | 100 | 20. | 20 |
| 1,2,3-Trichloropropane | ND | | ug/l | 50 | 14. | 20 |
| Acrylonitrile | ND | | ug/l | 100 | 30. | 20 |
| Styrene | ND | | ug/l | 50 | 14. | 20 |
| Dichlorodifluoromethane | ND | | ug/l | 100 | 20. | 20 |
| Acetone | 53 | J | ug/l | 100 | 29. | 20 |
| Carbon disulfide | ND | | ug/l | 100 | 20. | 20 |
| 2-Butanone | 390 | | ug/l | 100 | 39. | 20 |
| Vinyl acetate | ND | | ug/l | 100 | 20. | 20 |
| 4-Methyl-2-pentanone | ND | | ug/l | 100 | 20. | 20 |
| 2-Hexanone | ND | | ug/l | 100 | 20. | 20 |
| Bromochloromethane | ND | | ug/l | 50 | 14. | 20 |
| 2,2-Dichloropropane | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dibromoethane | ND | | ug/l | 40 | 13. | 20 |
| 1,3-Dichloropropane | ND | | ug/l | 50 | 14. | 20 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 50 | 14. | 20 |
| Bromobenzene | ND | | ug/l | 50 | 14. | 20 |
| n-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| sec-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| tert-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| o-Chlorotoluene | ND | | ug/l | 50 | 14. | 20 |
| p-Chlorotoluene | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 50 | 14. | 20 |
| Hexachlorobutadiene | ND | | ug/l | 50 | 14. | 20 |
| Isopropylbenzene | ND | | ug/l | 50 | 14. | 20 |
| p-Isopropyltoluene | ND | | ug/l | 50 | 14. | 20 |
| Naphthalene | ND | | ug/l | 50 | 14. | 20 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-21 D Date Collected: 10/19/20 14:00

Client ID: EZVI LO D5 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,4-Dioxane | ND | | ug/l | 5000 | 1200 | 20 |
| Freon-113 | 310 | | ug/l | 50 | 14. | 20 |
| p-Diethylbenzene | ND | | ug/l | 40 | 14. | 20 |
| p-Ethyltoluene | ND | | ug/l | 40 | 14. | 20 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 40 | 11. | 20 |
| Ethyl ether | ND | | ug/l | 50 | 14. | 20 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 50 | 14. | 20 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045017-22 D
Client ID: EZVI HI D5
Sample Location: ROCHESTER, NY

Date Collected: 10/19/20 14:05
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 09:06
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 50 | 14. | 20 |
| 1,1-Dichloroethane | 400 | | ug/l | 50 | 14. | 20 |
| Chloroform | ND | | ug/l | 50 | 14. | 20 |
| Carbon tetrachloride | ND | | ug/l | 10 | 2.7 | 20 |
| 1,2-Dichloropropane | ND | | ug/l | 20 | 2.7 | 20 |
| Dibromochloromethane | ND | | ug/l | 10 | 3.0 | 20 |
| 1,1,2-Trichloroethane | ND | | ug/l | 30 | 10. | 20 |
| Tetrachloroethene | 110 | | ug/l | 10 | 3.6 | 20 |
| Chlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| Trichlorofluoromethane | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dichloroethane | ND | | ug/l | 10 | 2.6 | 20 |
| 1,1,1-Trichloroethane | 72 | | ug/l | 50 | 14. | 20 |
| Bromodichloromethane | ND | | ug/l | 10 | 3.8 | 20 |
| trans-1,3-Dichloropropene | ND | | ug/l | 10 | 3.3 | 20 |
| cis-1,3-Dichloropropene | ND | | ug/l | 10 | 2.9 | 20 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 10 | 2.9 | 20 |
| 1,1-Dichloropropene | ND | | ug/l | 50 | 14. | 20 |
| Bromoform | ND | | ug/l | 40 | 13. | 20 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 10 | 3.3 | 20 |
| Benzene | 4.9 | J | ug/l | 10 | 3.2 | 20 |
| Toluene | 22 | J | ug/l | 50 | 14. | 20 |
| Ethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| Chloromethane | ND | | ug/l | 50 | 14. | 20 |
| Bromomethane | ND | | ug/l | 50 | 14. | 20 |
| Vinyl chloride | 280 | | ug/l | 20 | 1.4 | 20 |
| Chloroethane | 140 | | ug/l | 50 | 14. | 20 |
| 1,1-Dichloroethene | 5.0 | J | ug/l | 10 | 3.4 | 20 |
| trans-1,2-Dichloroethene | ND | | ug/l | 50 | 14. | 20 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-22 D
Client ID: EZVI HI D5
Sample Location: ROCHESTER, NY

Date Collected: 10/19/20 14:05
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 14 | | ug/l | 10 | 3.5 | 20 |
| 1,2-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,3-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,4-Dichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| Methyl tert butyl ether | ND | | ug/l | 50 | 14. | 20 |
| p/m-Xylene | ND | | ug/l | 50 | 14. | 20 |
| o-Xylene | ND | | ug/l | 50 | 14. | 20 |
| Xylenes, Total | ND | | ug/l | 50 | 14. | 20 |
| cis-1,2-Dichloroethene | 420 | | ug/l | 50 | 14. | 20 |
| 1,2-Dichloroethene, Total | 420 | | ug/l | 50 | 14. | 20 |
| Dibromomethane | ND | | ug/l | 100 | 20. | 20 |
| 1,2,3-Trichloropropane | ND | | ug/l | 50 | 14. | 20 |
| Acrylonitrile | ND | | ug/l | 100 | 30. | 20 |
| Styrene | ND | | ug/l | 50 | 14. | 20 |
| Dichlorodifluoromethane | ND | | ug/l | 100 | 20. | 20 |
| Acetone | 100 | | ug/l | 100 | 29. | 20 |
| Carbon disulfide | ND | | ug/l | 100 | 20. | 20 |
| 2-Butanone | 1700 | | ug/l | 100 | 39. | 20 |
| Vinyl acetate | ND | | ug/l | 100 | 20. | 20 |
| 4-Methyl-2-pentanone | ND | | ug/l | 100 | 20. | 20 |
| 2-Hexanone | ND | | ug/l | 100 | 20. | 20 |
| Bromochloromethane | ND | | ug/l | 50 | 14. | 20 |
| 2,2-Dichloropropane | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dibromoethane | ND | | ug/l | 40 | 13. | 20 |
| 1,3-Dichloropropane | ND | | ug/l | 50 | 14. | 20 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 50 | 14. | 20 |
| Bromobenzene | ND | | ug/l | 50 | 14. | 20 |
| n-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| sec-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| tert-Butylbenzene | ND | | ug/l | 50 | 14. | 20 |
| o-Chlorotoluene | ND | | ug/l | 50 | 14. | 20 |
| p-Chlorotoluene | ND | | ug/l | 50 | 14. | 20 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 50 | 14. | 20 |
| Hexachlorobutadiene | ND | | ug/l | 50 | 14. | 20 |
| Isopropylbenzene | ND | | ug/l | 50 | 14. | 20 |
| p-Isopropyltoluene | ND | | ug/l | 50 | 14. | 20 |
| Naphthalene | ND | | ug/l | 50 | 14. | 20 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-22 D Date Collected: 10/19/20 14:05

Client ID: EZVI HI D5 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 50 | 14. | 20 |
| 1,4-Dioxane | ND | | ug/l | 5000 | 1200 | 20 |
| Freon-113 | 150 | | ug/l | 50 | 14. | 20 |
| p-Diethylbenzene | ND | | ug/l | 40 | 14. | 20 |
| p-Ethyltoluene | ND | | ug/l | 40 | 14. | 20 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 40 | 11. | 20 |
| Ethyl ether | ND | | ug/l | 50 | 14. | 20 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 50 | 14. | 20 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 111 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-23 D
Client ID: CTRL D5
Sample Location: ROCHESTER, NY

Date Collected: 10/19/20 14:10
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 09:31
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 640 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 140 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 310 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 3.7 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 8.5 | J | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 400 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 170 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 8.7 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 8.0 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-23 D Date Collected: 10/19/20 14:10

Client ID: CTRL D5 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 23 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | ND | | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 680 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 690 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 18 | J | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | ND | | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-23 D Date Collected: 10/19/20 14:10

Client ID: CTRL D5 Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 130 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 10 | | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-24 D
Client ID: CTRL D5 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/19/20 14:15
Date Received: 10/19/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/20/20 09:57
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 630 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 140 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 300 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 4.0 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 11 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 390 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 170 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 8.2 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 7.8 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-24 D Date Collected: 10/19/20 14:15

Client ID: CTRL D5 DUP Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 23 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | ND | | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 680 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 690 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 21 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | ND | | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045017-24 D Date Collected: 10/19/20 14:15

Client ID: CTRL D5 DUP Date Received: 10/19/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 120 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 10 | | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:07
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 09-12,15-16 Batch: WG1424140-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:07
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 09-12,15-16 Batch: WG1424140-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:07
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 09-12,15-16 Batch: WG1424140-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:15
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 21-24 Batch: WG1424143-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:15
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 21-24 Batch: WG1424143-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:15
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 21-24 Batch: WG1424143-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:04
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 13-14,17-20 Batch: WG1424148-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:04
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 13-14,17-20 Batch: WG1424148-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/20/20 08:04
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 13-14,17-20 Batch: WG1424148-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/22/20 10:30
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05,07-08 Batch: WG1425368-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/22/20 10:30
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05,07-08 Batch: WG1425368-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL **Lab Number:** L2045017

**Project Number:** 20029 **Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/22/20 10:30
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05,07-08 Batch: WG1425368-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 95 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/23/20 08:38
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 06 Batch: WG1425677-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/23/20 08:38
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 06 Batch: WG1425677-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045017
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/23/20 08:38
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 06 Batch: WG1425677-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09-12,15-16 Batch: WG1424140-3 WG1424140-4 | | | | | | | | |
| Methylene chloride | 94 | | 96 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| Chloroform | 96 | | 97 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 110 | | 110 | | 63-132 | 0 | | 20 |
| 1,2-Dichloropropane | 100 | | 100 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 91 | | 92 | | 63-130 | 1 | | 20 |
| 1,1,2-Trichloroethane | 86 | | 88 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 110 | | 110 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 94 | | 96 | | 75-130 | 2 | | 20 |
| Trichlorofluoromethane | 87 | | 87 | | 62-150 | 0 | | 20 |
| 1,2-Dichloroethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1,1-Trichloroethane | 100 | | 100 | | 67-130 | 0 | | 20 |
| Bromodichloromethane | 97 | | 98 | | 67-130 | 1 | | 20 |
| trans-1,3-Dichloropropene | 84 | | 83 | | 70-130 | 1 | | 20 |
| cis-1,3-Dichloropropene | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,1-Dichloropropene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Bromoform | 99 | | 93 | | 54-136 | 6 | | 20 |
| 1,1,2,2-Tetrachloroethane | 83 | | 83 | | 67-130 | 0 | | 20 |
| Benzene | 96 | | 99 | | 70-130 | 3 | | 20 |
| Toluene | 96 | | 98 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 95 | | 96 | | 70-130 | 1 | | 20 |
| Chloromethane | **140** | Q | **140** | Q | 64-130 | 0 | | 20 |
| Bromomethane | 76 | | 79 | | 39-139 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09-12,15-16 Batch: WG1424140-3 WG1424140-4 | | | | | | | | |
| Vinyl chloride | 100 | | 100 | | 55-140 | 0 | | 20 |
| Chloroethane | 63 | | 67 | | 55-138 | 6 | | 20 |
| 1,1-Dichloroethene | 83 | | 84 | | 61-145 | 1 | | 20 |
| trans-1,2-Dichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Trichloroethene | 94 | | 97 | | 70-130 | 3 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Methyl tert butyl ether | 86 | | 78 | | 63-130 | 10 | | 20 |
| p/m-Xylene | 95 | | 95 | | 70-130 | 0 | | 20 |
| o-Xylene | 95 | | 95 | | 70-130 | 0 | | 20 |
| cis-1,2-Dichloroethene | 99 | | 100 | | 70-130 | 1 | | 20 |
| Dibromomethane | 90 | | 89 | | 70-130 | 1 | | 20 |
| 1,2,3-Trichloropropane | 86 | | 86 | | 64-130 | 0 | | 20 |
| Acrylonitrile | 110 | | 100 | | 70-130 | 10 | | 20 |
| Styrene | 95 | | 95 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | **150** | Q | **150** | Q | 36-147 | 0 | | 20 |
| Acetone | 91 | | 88 | | 58-148 | 3 | | 20 |
| Carbon disulfide | 94 | | 93 | | 51-130 | 1 | | 20 |
| 2-Butanone | 89 | | 89 | | 63-138 | 0 | | 20 |
| Vinyl acetate | 92 | | 91 | | 70-130 | 1 | | 20 |
| 4-Methyl-2-pentanone | 96 | | 93 | | 59-130 | 3 | | 20 |
| 2-Hexanone | 90 | | 89 | | 57-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09-12,15-16 Batch: WG1424140-3 WG1424140-4 | | | | | | | | |
| Bromochloromethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| 2,2-Dichloropropane | 110 | | 110 | | 63-133 | 0 | | 20 |
| 1,2-Dibromoethane | 90 | | 92 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 130 | | 130 | | 70-130 | 0 | | 20 |
| 1,1,1,2-Tetrachloroethane | 100 | | 100 | | 64-130 | 0 | | 20 |
| Bromobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| n-Butylbenzene | 89 | | 87 | | 53-136 | 2 | | 20 |
| sec-Butylbenzene | 95 | | 94 | | 70-130 | 1 | | 20 |
| tert-Butylbenzene | 98 | | 96 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 97 | | 99 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,2-Dibromo-3-chloropropane | 100 | | 100 | | 41-144 | 0 | | 20 |
| Hexachlorobutadiene | 120 | | 120 | | 63-130 | 0 | | 20 |
| Isopropylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 95 | | 94 | | 70-130 | 1 | | 20 |
| Naphthalene | 98 | | 89 | | 70-130 | 10 | | 20 |
| n-Propylbenzene | 94 | | 94 | | 69-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,2,4-Trichlorobenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,3,5-Trimethylbenzene | 99 | | 100 | | 64-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 86 | | 76 | | 56-162 | 12 | | 20 |
| Freon-113 | 98 | | 98 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 09-12,15-16 Batch: WG1424140-3 WG1424140-4 | | | | | | | | |
| p-Diethylbenzene | 94 | | 92 | | 70-130 | 2 | | 20 |
| p-Ethyltoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 99 | | 93 | | 70-130 | 6 | | 20 |
| Ethyl ether | 60 | | 62 | | 59-134 | 3 | | 20 |
| trans-1,4-Dichloro-2-butene | **50** | Q | **42** | Q | 70-130 | 17 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 102 | | 70-130 |
| Toluene-d8 | 99 | | 99 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 100 | | 70-130 |
| Dibromofluoromethane | 100 | | 100 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 21-24 Batch: WG1424143-3 WG1424143-4 | | | | | | | | |
| Methylene chloride | 98 | | 99 | | 70-130 | 1 | | 20 |
| 1,1-Dichloroethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| Chloroform | 110 | | 100 | | 70-130 | 10 | | 20 |
| Carbon tetrachloride | 110 | | 110 | | 63-132 | 0 | | 20 |
| 1,2-Dichloropropane | 100 | | 100 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 90 | | 92 | | 63-130 | 2 | | 20 |
| 1,1,2-Trichloroethane | 86 | | 91 | | 70-130 | 6 | | 20 |
| Tetrachloroethene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Chlorobenzene | 100 | | 100 | | 75-130 | 0 | | 20 |
| Trichlorofluoromethane | 110 | | 110 | | 62-150 | 0 | | 20 |
| 1,2-Dichloroethane | 110 | | 110 | | 70-130 | 0 | | 20 |
| 1,1,1-Trichloroethane | 110 | | 110 | | 67-130 | 0 | | 20 |
| Bromodichloromethane | 100 | | 100 | | 67-130 | 0 | | 20 |
| trans-1,3-Dichloropropene | 93 | | 96 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 99 | | 100 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Bromoform | 84 | | 88 | | 54-136 | 5 | | 20 |
| 1,1,2,2-Tetrachloroethane | 81 | | 86 | | 67-130 | 6 | | 20 |
| Benzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Toluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Ethylbenzene | 99 | | 100 | | 70-130 | 1 | | 20 |
| Chloromethane | 88 | | 95 | | 64-130 | 8 | | 20 |
| Bromomethane | 53 | | 57 | | 39-139 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 21-24 Batch: WG1424143-3 WG1424143-4 | | | | | | | | |
| Vinyl chloride | 94 | | 99 | | 55-140 | 5 | | 20 |
| Chloroethane | 110 | | 110 | | 55-138 | 0 | | 20 |
| 1,1-Dichloroethene | 100 | | 100 | | 61-145 | 0 | | 20 |
| trans-1,2-Dichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Trichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,2-Dichlorobenzene | 98 | | 98 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 100 | | 99 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 100 | | 99 | | 70-130 | 1 | | 20 |
| Methyl tert butyl ether | 97 | | 100 | | 63-130 | 3 | | 20 |
| p/m-Xylene | 100 | | 100 | | 70-130 | 0 | | 20 |
| o-Xylene | 100 | | 100 | | 70-130 | 0 | | 20 |
| cis-1,2-Dichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Dibromomethane | 91 | | 100 | | 70-130 | 9 | | 20 |
| 1,2,3-Trichloropropane | 84 | | 92 | | 64-130 | 9 | | 20 |
| Acrylonitrile | 95 | | 99 | | 70-130 | 4 | | 20 |
| Styrene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 88 | | 90 | | 36-147 | 2 | | 20 |
| Acetone | 98 | | 110 | | 58-148 | 12 | | 20 |
| Carbon disulfide | 100 | | 100 | | 51-130 | 0 | | 20 |
| 2-Butanone | 92 | | 95 | | 63-138 | 3 | | 20 |
| Vinyl acetate | 95 | | 100 | | 70-130 | 5 | | 20 |
| 4-Methyl-2-pentanone | 79 | | 84 | | 59-130 | 6 | | 20 |
| 2-Hexanone | 79 | | 88 | | 57-130 | 11 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 21-24 Batch: WG1424143-3 WG1424143-4 | | | | | | | | |
| Bromochloromethane | 110 | | 110 | | 70-130 | 0 | | 20 |
| 2,2-Dichloropropane | 120 | | 120 | | 63-133 | 0 | | 20 |
| 1,2-Dibromoethane | 88 | | 92 | | 70-130 | 4 | | 20 |
| 1,3-Dichloropropane | 92 | | 96 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 97 | | 99 | | 64-130 | 2 | | 20 |
| Bromobenzene | 98 | | 98 | | 70-130 | 0 | | 20 |
| n-Butylbenzene | 98 | | 96 | | 53-136 | 2 | | 20 |
| sec-Butylbenzene | 97 | | 96 | | 70-130 | 1 | | 20 |
| tert-Butylbenzene | 97 | | 96 | | 70-130 | 1 | | 20 |
| o-Chlorotoluene | 100 | | 98 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 98 | | 96 | | 70-130 | 2 | | 20 |
| 1,2-Dibromo-3-chloropropane | 73 | | 77 | | 41-144 | 5 | | 20 |
| Hexachlorobutadiene | 100 | | 100 | | 63-130 | 0 | | 20 |
| Isopropylbenzene | 97 | | 96 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Naphthalene | 85 | | 92 | | 70-130 | 8 | | 20 |
| n-Propylbenzene | 98 | | 96 | | 69-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 95 | | 99 | | 70-130 | 4 | | 20 |
| 1,2,4-Trichlorobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,3,5-Trimethylbenzene | 98 | | 96 | | 64-130 | 2 | | 20 |
| 1,2,4-Trimethylbenzene | 99 | | 98 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | 90 | | 112 | | 56-162 | **22** | Q | 20 |
| Freon-113 | 110 | | 110 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 21-24 Batch: WG1424143-3 WG1424143-4 | | | | | | | | |
| p-Diethylbenzene | 98 | | 95 | | 70-130 | 3 | | 20 |
| p-Ethyltoluene | 99 | | 96 | | 70-130 | 3 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 98 | | 99 | | 70-130 | 1 | | 20 |
| Ethyl ether | 97 | | 98 | | 59-134 | 1 | | 20 |
| trans-1,4-Dichloro-2-butene | **59** | Q | **63** | Q | 70-130 | 7 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 107 | | 70-130 |
| Toluene-d8 | 96 | | 95 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 95 | | 70-130 |
| Dibromofluoromethane | 97 | | 96 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-14,17-20 Batch: WG1424148-3 WG1424148-4 | | | | | | | | |
| Methylene chloride | 110 | | 98 | | 70-130 | 12 | | 20 |
| 1,1-Dichloroethane | 110 | | 97 | | 70-130 | 13 | | 20 |
| Chloroform | 100 | | 94 | | 70-130 | 6 | | 20 |
| Carbon tetrachloride | 100 | | 94 | | 63-132 | 6 | | 20 |
| 1,2-Dichloropropane | 100 | | 96 | | 70-130 | 4 | | 20 |
| Dibromochloromethane | 94 | | 94 | | 63-130 | 0 | | 20 |
| 1,1,2-Trichloroethane | 96 | | 98 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 110 | | 96 | | 70-130 | 14 | | 20 |
| Chlorobenzene | 110 | | 100 | | 75-130 | 10 | | 20 |
| Trichlorofluoromethane | 110 | | 100 | | 62-150 | 10 | | 20 |
| 1,2-Dichloroethane | 96 | | 93 | | 70-130 | 3 | | 20 |
| 1,1,1-Trichloroethane | 100 | | 96 | | 67-130 | 4 | | 20 |
| Bromodichloromethane | 100 | | 93 | | 67-130 | 7 | | 20 |
| trans-1,3-Dichloropropene | 96 | | 92 | | 70-130 | 4 | | 20 |
| cis-1,3-Dichloropropene | 98 | | 92 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 110 | | 98 | | 70-130 | 12 | | 20 |
| Bromoform | 92 | | 95 | | 54-136 | 3 | | 20 |
| 1,1,2,2-Tetrachloroethane | 93 | | 96 | | 67-130 | 3 | | 20 |
| Benzene | 110 | | 98 | | 70-130 | 12 | | 20 |
| Toluene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Ethylbenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Chloromethane | 110 | | 100 | | 64-130 | 10 | | 20 |
| Bromomethane | 100 | | 88 | | 39-139 | 13 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-14,17-20 Batch: WG1424148-3 WG1424148-4 | | | | | | | | |
| Vinyl chloride | 120 | | 100 | | 55-140 | 18 | | 20 |
| Chloroethane | 130 | | 120 | | 55-138 | 8 | | 20 |
| 1,1-Dichloroethene | 110 | | 97 | | 61-145 | 13 | | 20 |
| trans-1,2-Dichloroethene | 110 | | 97 | | 70-130 | 13 | | 20 |
| Trichloroethene | 100 | | 96 | | 70-130 | 4 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 99 | | 70-130 | 1 | | 20 |
| 1,3-Dichlorobenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,4-Dichlorobenzene | 110 | | 97 | | 70-130 | 13 | | 20 |
| Methyl tert butyl ether | 91 | | 91 | | 63-130 | 0 | | 20 |
| p/m-Xylene | 120 | | 105 | | 70-130 | 13 | | 20 |
| o-Xylene | 115 | | 105 | | 70-130 | 9 | | 20 |
| cis-1,2-Dichloroethene | 100 | | 96 | | 70-130 | 4 | | 20 |
| Dibromomethane | 99 | | 94 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichloropropane | 91 | | 93 | | 64-130 | 2 | | 20 |
| Acrylonitrile | 86 | | 94 | | 70-130 | 9 | | 20 |
| Styrene | 120 | | 110 | | 70-130 | 9 | | 20 |
| Dichlorodifluoromethane | 120 | | 100 | | 36-147 | 18 | | 20 |
| Acetone | 78 | | 90 | | 58-148 | 14 | | 20 |
| Carbon disulfide | 110 | | 100 | | 51-130 | 10 | | 20 |
| 2-Butanone | 88 | | 95 | | 63-138 | 8 | | 20 |
| Vinyl acetate | 87 | | 85 | | 70-130 | 2 | | 20 |
| 4-Methyl-2-pentanone | 75 | | 86 | | 59-130 | 14 | | 20 |
| 2-Hexanone | 79 | | 82 | | 57-130 | 4 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-14,17-20 Batch: WG1424148-3 WG1424148-4 | | | | | | | | |
| Bromochloromethane | 100 | | 97 | | 70-130 | 3 | | 20 |
| 2,2-Dichloropropane | 110 | | 98 | | 63-133 | 12 | | 20 |
| 1,2-Dibromoethane | 95 | | 95 | | 70-130 | 0 | | 20 |
| 1,3-Dichloropropane | 100 | | 97 | | 70-130 | 3 | | 20 |
| 1,1,1,2-Tetrachloroethane | 100 | | 98 | | 64-130 | 2 | | 20 |
| Bromobenzene | 100 | | 98 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 120 | | 100 | | 53-136 | 18 | | 20 |
| sec-Butylbenzene | 120 | | 100 | | 70-130 | 18 | | 20 |
| tert-Butylbenzene | 98 | | 90 | | 70-130 | 9 | | 20 |
| o-Chlorotoluene | 120 | | 100 | | 70-130 | 18 | | 20 |
| p-Chlorotoluene | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,2-Dibromo-3-chloropropane | 82 | | 80 | | 41-144 | 2 | | 20 |
| Hexachlorobutadiene | 100 | | 96 | | 63-130 | 4 | | 20 |
| Isopropylbenzene | 120 | | 100 | | 70-130 | 18 | | 20 |
| p-Isopropyltoluene | 120 | | 100 | | 70-130 | 18 | | 20 |
| Naphthalene | 81 | | 80 | | 70-130 | 1 | | 20 |
| n-Propylbenzene | 120 | | 100 | | 69-130 | 18 | | 20 |
| 1,2,3-Trichlorobenzene | 88 | | 86 | | 70-130 | 2 | | 20 |
| 1,2,4-Trichlorobenzene | 97 | | 91 | | 70-130 | 6 | | 20 |
| 1,3,5-Trimethylbenzene | 120 | | 100 | | 64-130 | 18 | | 20 |
| 1,2,4-Trimethylbenzene | 120 | | 100 | | 70-130 | 18 | | 20 |
| 1,4-Dioxane | 86 | | 88 | | 56-162 | 2 | | 20 |
| Freon-113 | 110 | | 100 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL

**Project Number:** 20029

**Lab Number:** L2045017

**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 13-14,17-20 Batch: WG1424148-3 WG1424148-4 | | | | | | | | |
| p-Diethylbenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| p-Ethyltoluene | 120 | | 100 | | 70-130 | 18 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 110 | | 97 | | 70-130 | 13 | | 20 |
| Ethyl ether | 96 | | 93 | | 59-134 | 3 | | 20 |
| trans-1,4-Dichloro-2-butene | 91 | | 91 | | 70-130 | 0 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 90 | | 92 | | 70-130 |
| Toluene-d8 | 102 | | 101 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 102 | | 70-130 |
| Dibromofluoromethane | 97 | | 95 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05,07-08 Batch: WG1425368-3 WG1425368-4 | | | | | | | | |
| Methylene chloride | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,1-Dichloroethane | 110 | | 110 | | 70-130 | 0 | | 20 |
| Chloroform | 110 | | 110 | | 70-130 | 0 | | 20 |
| Carbon tetrachloride | 110 | | 120 | | 63-132 | 9 | | 20 |
| 1,2-Dichloropropane | 100 | | 110 | | 70-130 | 10 | | 20 |
| Dibromochloromethane | 100 | | 100 | | 63-130 | 0 | | 20 |
| 1,1,2-Trichloroethane | 95 | | 95 | | 70-130 | 0 | | 20 |
| Tetrachloroethene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Chlorobenzene | 100 | | 100 | | 75-130 | 0 | | 20 |
| Trichlorofluoromethane | 110 | | 120 | | 62-150 | 9 | | 20 |
| 1,2-Dichloroethane | 120 | | 120 | | 70-130 | 0 | | 20 |
| 1,1,1-Trichloroethane | 110 | | 120 | | 67-130 | 9 | | 20 |
| Bromodichloromethane | 110 | | 110 | | 67-130 | 0 | | 20 |
| trans-1,3-Dichloropropene | 100 | | 100 | | 70-130 | 0 | | 20 |
| cis-1,3-Dichloropropene | 110 | | 110 | | 70-130 | 0 | | 20 |
| 1,1-Dichloropropene | 110 | | 110 | | 70-130 | 0 | | 20 |
| Bromoform | 95 | | 100 | | 54-136 | 5 | | 20 |
| 1,1,2,2-Tetrachloroethane | 92 | | 95 | | 67-130 | 3 | | 20 |
| Benzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Toluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Ethylbenzene | 99 | | 100 | | 70-130 | 1 | | 20 |
| Chloromethane | 87 | | 100 | | 64-130 | 14 | | 20 |
| Bromomethane | 51 | | 60 | | 39-139 | 16 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05,07-08 Batch: WG1425368-3 WG1425368-4 | | | | | | | | |
| Vinyl chloride | 100 | | 110 | | 55-140 | 10 | | 20 |
| Chloroethane | 110 | | 120 | | 55-138 | 9 | | 20 |
| 1,1-Dichloroethene | 100 | | 110 | | 61-145 | 10 | | 20 |
| trans-1,2-Dichloroethene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Trichloroethene | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,2-Dichlorobenzene | 96 | | 100 | | 70-130 | 4 | | 20 |
| 1,3-Dichlorobenzene | 96 | | 100 | | 70-130 | 4 | | 20 |
| 1,4-Dichlorobenzene | 96 | | 100 | | 70-130 | 4 | | 20 |
| Methyl tert butyl ether | 110 | | 110 | | 63-130 | 0 | | 20 |
| p/m-Xylene | 100 | | 105 | | 70-130 | 5 | | 20 |
| o-Xylene | 100 | | 105 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 110 | | 110 | | 70-130 | 0 | | 20 |
| Dibromomethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichloropropane | 96 | | 97 | | 64-130 | 1 | | 20 |
| Acrylonitrile | 110 | | 110 | | 70-130 | 0 | | 20 |
| Styrene | 100 | | 105 | | 70-130 | 5 | | 20 |
| Dichlorodifluoromethane | 95 | | 110 | | 36-147 | 15 | | 20 |
| Acetone | 140 | | **150** | Q | 58-148 | 7 | | 20 |
| Carbon disulfide | 99 | | 110 | | 51-130 | 11 | | 20 |
| 2-Butanone | 120 | | 110 | | 63-138 | 9 | | 20 |
| Vinyl acetate | 110 | | 110 | | 70-130 | 0 | | 20 |
| 4-Methyl-2-pentanone | 95 | | 93 | | 59-130 | 2 | | 20 |
| 2-Hexanone | 120 | | 99 | | 57-130 | 19 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05,07-08 Batch: WG1425368-3 WG1425368-4 | | | | | | | | |
| Bromochloromethane | 110 | | 120 | | 70-130 | 9 | | 20 |
| 2,2-Dichloropropane | 120 | | 130 | | 63-133 | 8 | | 20 |
| 1,2-Dibromoethane | 99 | | 99 | | 70-130 | 0 | | 20 |
| 1,3-Dichloropropane | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1,1,2-Tetrachloroethane | 100 | | 100 | | 64-130 | 0 | | 20 |
| Bromobenzene | 98 | | 100 | | 70-130 | 2 | | 20 |
| n-Butylbenzene | 91 | | 100 | | 53-136 | 9 | | 20 |
| sec-Butylbenzene | 91 | | 100 | | 70-130 | 9 | | 20 |
| tert-Butylbenzene | 93 | | 100 | | 70-130 | 7 | | 20 |
| o-Chlorotoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 95 | | 100 | | 70-130 | 5 | | 20 |
| 1,2-Dibromo-3-chloropropane | 89 | | 84 | | 41-144 | 6 | | 20 |
| Hexachlorobutadiene | 87 | | 98 | | 63-130 | 12 | | 20 |
| Isopropylbenzene | 94 | | 100 | | 70-130 | 6 | | 20 |
| p-Isopropyltoluene | 92 | | 100 | | 70-130 | 8 | | 20 |
| Naphthalene | 86 | | 90 | | 70-130 | 5 | | 20 |
| n-Propylbenzene | 94 | | 100 | | 69-130 | 6 | | 20 |
| 1,2,3-Trichlorobenzene | 86 | | 96 | | 70-130 | 11 | | 20 |
| 1,2,4-Trichlorobenzene | 93 | | 97 | | 70-130 | 4 | | 20 |
| 1,3,5-Trimethylbenzene | 93 | | 100 | | 64-130 | 7 | | 20 |
| 1,2,4-Trimethylbenzene | 94 | | 100 | | 70-130 | 6 | | 20 |
| 1,4-Dioxane | 96 | | 114 | | 56-162 | 17 | | 20 |
| Freon-113 | 100 | | 120 | | 70-130 | 18 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05,07-08 Batch: WG1425368-3 WG1425368-4 | | | | | | | | |
| p-Diethylbenzene | 91 | | 100 | | 70-130 | 9 | | 20 |
| p-Ethyltoluene | 94 | | 100 | | 70-130 | 6 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 92 | | 100 | | 70-130 | 8 | | 20 |
| Ethyl ether | 110 | | 110 | | 59-134 | 0 | | 20 |
| trans-1,4-Dichloro-2-butene | 75 | | 83 | | 70-130 | 10 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 107 | | 70-130 |
| Toluene-d8 | 96 | | 95 | | 70-130 |
| 4-Bromofluorobenzene | 96 | | 98 | | 70-130 |
| Dibromofluoromethane | 101 | | 100 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06 Batch: WG1425677-3 WG1425677-4 | | | | | | | | |
| Methylene chloride | 97 | | 99 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 96 | | 98 | | 70-130 | 2 | | 20 |
| Chloroform | 93 | | 95 | | 70-130 | 2 | | 20 |
| Carbon tetrachloride | 90 | | 91 | | 63-132 | 1 | | 20 |
| 1,2-Dichloropropane | 94 | | 94 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 94 | | 94 | | 63-130 | 0 | | 20 |
| 1,1,2-Trichloroethane | 99 | | 99 | | 70-130 | 0 | | 20 |
| Tetrachloroethene | 95 | | 93 | | 70-130 | 2 | | 20 |
| Chlorobenzene | 98 | | 98 | | 75-130 | 0 | | 20 |
| Trichlorofluoromethane | 96 | | 95 | | 62-150 | 1 | | 20 |
| 1,2-Dichloroethane | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,1,1-Trichloroethane | 92 | | 93 | | 67-130 | 1 | | 20 |
| Bromodichloromethane | 93 | | 94 | | 67-130 | 1 | | 20 |
| trans-1,3-Dichloropropene | 91 | | 94 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 91 | | 92 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 93 | | 94 | | 70-130 | 1 | | 20 |
| Bromoform | 86 | | 87 | | 54-136 | 1 | | 20 |
| 1,1,2,2-Tetrachloroethane | 96 | | 94 | | 67-130 | 2 | | 20 |
| Benzene | 96 | | 95 | | 70-130 | 1 | | 20 |
| Toluene | 98 | | 98 | | 70-130 | 0 | | 20 |
| Ethylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Chloromethane | 100 | | 100 | | 64-130 | 0 | | 20 |
| Bromomethane | 89 | | 88 | | 39-139 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06 Batch: WG1425677-3 WG1425677-4 | | | | | | | | |
| Vinyl chloride | 100 | | 98 | | 55-140 | 2 | | 20 |
| Chloroethane | 110 | | 100 | | 55-138 | 10 | | 20 |
| 1,1-Dichloroethene | 94 | | 94 | | 61-145 | 0 | | 20 |
| trans-1,2-Dichloroethene | 92 | | 92 | | 70-130 | 0 | | 20 |
| Trichloroethene | 93 | | 93 | | 70-130 | 0 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 100 | | 99 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 92 | | 89 | | 63-130 | 3 | | 20 |
| p/m-Xylene | 105 | | 105 | | 70-130 | 0 | | 20 |
| o-Xylene | 105 | | 100 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 97 | | 92 | | 70-130 | 5 | | 20 |
| Dibromomethane | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichloropropane | 99 | | 93 | | 64-130 | 6 | | 20 |
| Acrylonitrile | 97 | | 98 | | 70-130 | 1 | | 20 |
| Styrene | 105 | | 105 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 110 | | 110 | | 36-147 | 0 | | 20 |
| Acetone | 110 | | 100 | | 58-148 | 10 | | 20 |
| Carbon disulfide | 97 | | 97 | | 51-130 | 0 | | 20 |
| 2-Butanone | 110 | | 110 | | 63-138 | 0 | | 20 |
| Vinyl acetate | 88 | | 89 | | 70-130 | 1 | | 20 |
| 4-Methyl-2-pentanone | 87 | | 82 | | 59-130 | 6 | | 20 |
| 2-Hexanone | 85 | | 87 | | 57-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06 Batch: WG1425677-3 WG1425677-4 | | | | | | | | |
| Bromochloromethane | 100 | | 94 | | 70-130 | 6 | | 20 |
| 2,2-Dichloropropane | 98 | | 99 | | 63-133 | 1 | | 20 |
| 1,2-Dibromoethane | 94 | | 96 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 100 | | 96 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 97 | | 95 | | 64-130 | 2 | | 20 |
| Bromobenzene | 96 | | 95 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 100 | | 100 | | 53-136 | 0 | | 20 |
| sec-Butylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| tert-Butylbenzene | 90 | | 85 | | 70-130 | 6 | | 20 |
| o-Chlorotoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 82 | | 75 | | 41-144 | 9 | | 20 |
| Hexachlorobutadiene | 90 | | 88 | | 63-130 | 2 | | 20 |
| Isopropylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Naphthalene | 75 | | 73 | | 70-130 | 3 | | 20 |
| n-Propylbenzene | 100 | | 100 | | 69-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 78 | | 79 | | 70-130 | 1 | | 20 |
| 1,2,4-Trichlorobenzene | 88 | | 85 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 110 | | 100 | | 64-130 | 10 | | 20 |
| 1,2,4-Trimethylbenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,4-Dioxane | 98 | | 86 | | 56-162 | 13 | | 20 |
| Freon-113 | 98 | | 99 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06 Batch: WG1425677-3 WG1425677-4 | | | | | | | | |
| p-Diethylbenzene | 100 | | 99 | | 70-130 | 1 | | 20 |
| p-Ethyltoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 96 | | 92 | | 70-130 | 4 | | 20 |
| Ethyl ether | 95 | | 95 | | 59-134 | 0 | | 20 |
| trans-1,4-Dichloro-2-butene | 90 | | 94 | | 70-130 | 4 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 98 | | 70-130 |
| Toluene-d8 | 103 | | 103 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 101 | | 70-130 |
| Dibromofluoromethane | 97 | | 97 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

## 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(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2045017-01A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-01B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-02A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-02B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-03A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-03B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-04A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-04B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-05A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-05B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-06A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-06B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-07A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-07B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-08A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-08B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-09A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-09B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-10A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-10B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-11A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-11B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-12A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |



*Values in parentheses indicate holding time in days

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045017
**Report Date:** 10/23/20

## Container Information

| Container ID | Container Type | Cooler | Initial pH | Final pH | Temp deg C | Pres | Seal | Frozen Date/Time | Analysis(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2045017-12B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-13A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-13B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-14A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-14B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-15A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-15B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-16A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-16B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-17A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-17B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-18A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-18B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-19A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-19B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-20A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-20B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-21A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-21B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-22A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-22B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-23A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-23B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-24A | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |
| L2045017-24B | Vial HCl preserved | A | NA | | 3.2 | Y | Absent | | NYTCL-8260(14) |



*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2045017 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

## GLOSSARY

***Acronyms***

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2045017 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

***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.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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.

**F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

**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

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2045017 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

***Data Qualifiers***

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.

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2045017 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

## REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

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

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

# Certification Information

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

**Westborough Facility**
**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene
**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.
**EPA TO-12** Non-methane organics
**EPA 3C** Fixed gases
**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.

ALPHA ANALYTICAL

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

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

# NEW JERSEY 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 3

Date Rec'd in Lab: 10/19/20

ALPHA Job #: L2045017

**Client Information**
Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

**Project Information**
Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12786

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

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

**Regulatory Requirement**
☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☑ Other NYSDOH ELAP

**Billing Information**
☑ Same as Client Info
PO # 4697

**Site Information**
Is this site impacted by Petroleum? Yes ☐
Petroleum Product:

These samples have been previously analyzed by Alpha ☐

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com

* please include Freon-113

Standard TAT for these Samples

**ANALYSIS**

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

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs * | Sample Specific Comments | Total Bottles |
|---|---|---|---|---|---|---|---|---|
| L5017-01 | Flow Lo D3 | 10/17/2020 | 15:00 | GW | LC | x | | 2 |
| -02 | Flow Hi D3 | 10/17/2020 | 15:05 | GW | LC | x | | 2 |
| -03 | Target Lo D3 | 10/17/2020 | 15:10 | GW | LC | x | | 2 |
| -04 | Target Hi D3 | 10/17/2020 | 15:15 | GW | LC | x | | 2 |
| -05 | eZVI Lo D3 | 10/17/2020 | 15:20 | GW | LC | x | | 2 |
| -06 | eZVI Hi D3 | 10/17/2020 | 15:25 | GW | LC | x | | 2 |
| -07 | Ctrl D3 | 10/17/2020 | 15:30 | GW | LC | x | | 2 |
| -08 | Ctrl D3 dup | 10/17/2020 | 15:35 | GW | LC | x | | 2 |
| | | | | | | | | |
| | | | | | | | | |

Container Type: G
Preservative: B

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

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

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

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| KERRI BURKE | 10/19/20 2:15 | TGage AAC | 10-19-20 14:15 |
| TGage AAC | 10/19/20 1850 | | 10/19/20 1850 |

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.

Form No: 01-14 (rev. 30-Sept-2013)

ALPHA ANALYTICAL

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

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

# NEW JERSEY 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 2 of 3

Date Rec'd in Lab 10/19/20

ALPHA Job # L2045017

**Client Information**
Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

**Project Information**
Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12786

**Turn-Around Time**
Standard ☐ Due Date:
Rush (only if pre approved) ☑ # of Days: 1 Day

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

**Regulatory Requirement**
☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☑ Other NYSDOH ELAP

**Billing Information**
☑ Same as Client Info
PO # 4697

**Site Information**
Is this site impacted by Petroleum? Yes ☐
Petroleum Product:

These samples have been previously analyzed by Alpha ☐

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com

* please include Freon-113
1-Day TAT for these

**ANALYSIS**

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

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs * | Sample Specific Comments | Total Bottle |
|---|---|---|---|---|---|---|---|---|
| 45017-09 | Flow Lo D4 | 10/18/2020 | 13:00 | GW | LC | x | | 2 |
| -10 | Flow Hi D4 | 10/18/2020 | 13:05 | GW | LC | x | | 2 |
| -11 | Target Lo D4 | 10/18/2020 | 13:10 | GW | LC | x | | 2 |
| -12 | Target Hi D4 | 10/18/2020 | 13:15 | GW | LC | x | | 2 |
| -13 | eZVI Lo D4 | 10/18/2020 | 13:20 | GW | LC | x | | 2 |
| -14 | eZVI Hi D4 | 10/18/2020 | 13:25 | GW | LC | x | | 2 |
| -15 | ctrl D4 | 10/18/2020 | 13:30 | GW | LC | x | | 2 |
| -16 | ctrl D4 dup | 10/18/2020 | 13:35 | GW | LC | x | | 2 |
| | | | | | | | | |
| | | | | | | | | |

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

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

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

| | | |
|---|---|---|
| Container Type | G | |
| Preservative | B | |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| KERRI BURKE | 10/19/20 7:15 | TGaye AGI | 10-19-20 1415 |
| TGaye AGI | 10/19/20 1854 | | 10/19/20 1850 |

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.

Form No: 01-14 (rev. 30-Sept-2013)

ALPHA ANALYTICAL

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

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

# NEW JERSEY 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 3 of 3

Date Rec'd in Lab: 10/19/20

ALPHA Job #: L2045017

**Client Information**
Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

**Project Information**
Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12786

**Turn-Around Time**
Standard ☐ Due Date:
Rush (only if pre approved) ☑ # of Days: 1 Day

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

**Regulatory Requirement**
☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☑ Other NYSDOH ELAP

**Billing Information**
☑ Same as Client Info
PO # 4697

**Site Information**
Is this site impacted by Petroleum? Yes ☐
Petroleum Product:

These samples have been previously analyzed by Alpha ☐

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com

* please include Freon-113

1-Day TAT for these

**ANALYSIS**

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

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs * | Sample Specific Comments | Total Bottles |
|---|---|---|---|---|---|---|---|---|
| 45017-17 | Flow Lo D5 | 10/19/2020 | 13:40 | GW | LC | x | | 2 |
| -18 | Flow Hi D5 | 10/19/2020 | 13:45 | GW | LC | x | | 2 |
| -19 | Target Lo D5 | 10/19/2020 | 13:50 | GW | LC | x | | 2 |
| -20 | Target Hi D5 | 10/19/2020 | 13:55 | GW | LC | x | | 2 |
| -21 | eZVI Lo D5 | 10/19/2020 | 14:00 | GW | LC | x | | 2 |
| -22 | eZVI Hi D5 | 10/19/2020 | 14:05 | GW | LC | x | | 2 |
| -23 | ctrl D5 | 10/19/2020 | 14:10 | GW | LC | x | | 2 |
| -24 | ctrl D5 dup | 10/19/2020 | 14:15 | GW | LC | x | | 2 |
| | | | | | | | | |
| | | | | | | | | |

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

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

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

| Container Type | G | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Preservative | B | | | | | | | |

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| KEDDI BURKE | 10/19/20 2:15 | TGuy AAC | 10-19-20 14:15 |
| TGuy MT6 | 10/19/20 1850 | Crier MC | 10/19/20 1852 |
| | | | |

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.

Form No: 01-14 (rev. 30-Sept-2013)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L2045902 |
| Client: | XDD Environmental<br>Mary Scudieri<br>22 Marin Way Unit 3<br>Stratham, NH 03885 |
| ATTN: | Laurel Crawford |
| Phone: | (603) 778-1100 |
| Project Name: | FESL |
| Project Number: | 20029 |
| Report Date: | 10/23/20 |



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:** FESL
**Project Number:** 20029

**Lab Number:** L2045902
**Report Date:** 10/23/20

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|---|---|---|---|---|---|
| L2045902-01 | FLOW LO D8 | WATER | ROCHESTER, NY | 10/22/20 11:25 | 10/22/20 |
| L2045902-02 | FLOW HI D8 | WATER | ROCHESTER, NY | 10/22/20 11:30 | 10/22/20 |
| L2045902-03 | TARGET LO D8 | WATER | ROCHESTER, NY | 10/22/20 11:35 | 10/22/20 |
| L2045902-04 | TARGET HI D8 | WATER | ROCHESTER, NY | 10/22/20 11:40 | 10/22/20 |
| L2045902-05 | EZVI LO D8 | WATER | ROCHESTER, NY | 10/22/20 11:45 | 10/22/20 |
| L2045902-06 | EZVI HI D8 | WATER | ROCHESTER, NY | 10/22/20 11:50 | 10/22/20 |
| L2045902-07 | CTRL D8 | WATER | ROCHESTER, NY | 10/22/20 11:55 | 10/22/20 |
| L2045902-08 | CTRL D8 DUP | WATER | ROCHESTER, NY | 10/22/20 12:00 | 10/22/20 |

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2045902 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

## 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:** | FESL | **Lab Number:** | L2045902 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

**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

L2045902-05 and -06: The pH of the sample was greater than two; however, the sample was analyzed within the method required holding time.

L2045902-05 and -06: The sample has elevated detection limits due to the dilution required by the sample matrix (white, cloudy).

L2045902-06: The surrogate recovery is outside the method acceptance criteria for 4-bromofluorobenzene (136%) due to interference with the Internal Standard.

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: 10/23/20

# ORGANICS

# VOLATILES

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-01 D
Client ID: FLOW LO D8
Sample Location: ROCHESTER, NY

Date Collected: 10/22/20 11:25
Date Received: 10/22/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/23/20 09:00
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 570 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 90 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 100 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 5.2 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 17 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 320 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 170 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 6.4 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 5.5 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-01 D
Client ID: FLOW LO D8
Sample Location: ROCHESTER, NY

Date Collected: 10/22/20 11:25
Date Received: 10/22/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 11 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 4.4 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 4.4 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 550 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 560 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 16 | J | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 10 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-01 D Date Collected: 10/22/20 11:25

Client ID: FLOW LO D8 Date Received: 10/22/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 84 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 9.7 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 101 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 104 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045902-02 D
Client ID: FLOW HI D8
Sample Location: ROCHESTER, NY

Date Collected: 10/22/20 11:30
Date Received: 10/22/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/23/20 09:22
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 550 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 55 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 26 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 4.8 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 14 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 230 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 150 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 2.2 | J | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-02 D Date Collected: 10/22/20 11:30

Client ID: FLOW HI D8 Date Received: 10/22/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 5.3 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | ND | | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 380 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 380 | | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 23 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 13 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-02 D Date Collected: 10/22/20 11:30

Client ID: FLOW HI D8 Date Received: 10/22/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 59 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 9.0 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

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

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045902
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-03 D
Client ID: TARGET LO D8
Sample Location: ROCHESTER, NY

Date Collected: 10/22/20 11:35
Date Received: 10/22/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/23/20 09:43
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 540 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 75 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 12 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 5.7 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 18 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 260 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 150 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 3.5 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 3.3 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-03 D Date Collected: 10/22/20 11:35

Client ID: TARGET LO D8 Date Received: 10/22/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 6.3 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 4.3 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 4.3 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 490 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 490 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | 5.3 | J | ug/l | 20 | 4.0 | 4 |
| Acetone | 22 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 14 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-03 D Date Collected: 10/22/20 11:35

Client ID: TARGET LO D8 Date Received: 10/22/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 47 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 8.8 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-04 D
Client ID: TARGET HI D8
Sample Location: ROCHESTER, NY

Date Collected: 10/22/20 11:40
Date Received: 10/22/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/23/20 10:05
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 540 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 41 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 7.3 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 20 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 130 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 160 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 1.4 | J | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-04 D
Client ID: TARGET HI D8
Sample Location: ROCHESTER, NY

Date Collected: 10/22/20 11:40
Date Received: 10/22/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 4.3 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 4.9 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 4.9 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 280 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 280 | | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | 6.8 | J | ug/l | 20 | 4.0 | 4 |
| Acetone | 29 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 18 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-04 D Date Collected: 10/22/20 11:40

Client ID: TARGET HI D8 Date Received: 10/22/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 5.2 | J | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 9.4 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045902-05 D
Client ID: EZVI LO D8
Sample Location: ROCHESTER, NY

Date Collected: 10/22/20 11:45
Date Received: 10/22/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/23/20 11:11
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 62 | 18. | 25 |
| 1,1-Dichloroethane | 540 | | ug/l | 62 | 18. | 25 |
| Chloroform | ND | | ug/l | 62 | 18. | 25 |
| Carbon tetrachloride | ND | | ug/l | 12 | 3.4 | 25 |
| 1,2-Dichloropropane | ND | | ug/l | 25 | 3.4 | 25 |
| Dibromochloromethane | ND | | ug/l | 12 | 3.7 | 25 |
| 1,1,2-Trichloroethane | ND | | ug/l | 38 | 12. | 25 |
| Tetrachloroethene | 190 | | ug/l | 12 | 4.5 | 25 |
| Chlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| Trichlorofluoromethane | ND | | ug/l | 62 | 18. | 25 |
| 1,2-Dichloroethane | ND | | ug/l | 12 | 3.3 | 25 |
| 1,1,1-Trichloroethane | 60 | J | ug/l | 62 | 18. | 25 |
| Bromodichloromethane | ND | | ug/l | 12 | 4.8 | 25 |
| trans-1,3-Dichloropropene | ND | | ug/l | 12 | 4.1 | 25 |
| cis-1,3-Dichloropropene | ND | | ug/l | 12 | 3.6 | 25 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 12 | 3.6 | 25 |
| 1,1-Dichloropropene | ND | | ug/l | 62 | 18. | 25 |
| Bromoform | ND | | ug/l | 50 | 16. | 25 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 12 | 4.2 | 25 |
| Benzene | 5.4 | J | ug/l | 12 | 4.0 | 25 |
| Toluene | 26 | J | ug/l | 62 | 18. | 25 |
| Ethylbenzene | ND | | ug/l | 62 | 18. | 25 |
| Chloromethane | ND | | ug/l | 62 | 18. | 25 |
| Bromomethane | ND | | ug/l | 62 | 18. | 25 |
| Vinyl chloride | 320 | | ug/l | 25 | 1.8 | 25 |
| Chloroethane | 180 | | ug/l | 62 | 18. | 25 |
| 1,1-Dichloroethene | 5.6 | J | ug/l | 12 | 4.2 | 25 |
| trans-1,2-Dichloroethene | ND | | ug/l | 62 | 18. | 25 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-05 D Date Collected: 10/22/20 11:45

Client ID: EZVI LO D8 Date Received: 10/22/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 19 | | ug/l | 12 | 4.4 | 25 |
| 1,2-Dichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,3-Dichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,4-Dichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| Methyl tert butyl ether | ND | | ug/l | 62 | 18. | 25 |
| p/m-Xylene | ND | | ug/l | 62 | 18. | 25 |
| o-Xylene | ND | | ug/l | 62 | 18. | 25 |
| Xylenes, Total | ND | | ug/l | 62 | 18. | 25 |
| cis-1,2-Dichloroethene | 520 | | ug/l | 62 | 18. | 25 |
| 1,2-Dichloroethene, Total | 520 | | ug/l | 62 | 18. | 25 |
| Dibromomethane | ND | | ug/l | 120 | 25. | 25 |
| 1,2,3-Trichloropropane | ND | | ug/l | 62 | 18. | 25 |
| Acrylonitrile | ND | | ug/l | 120 | 38. | 25 |
| Styrene | ND | | ug/l | 62 | 18. | 25 |
| Dichlorodifluoromethane | ND | | ug/l | 120 | 25. | 25 |
| Acetone | 45 | J | ug/l | 120 | 36. | 25 |
| Carbon disulfide | ND | | ug/l | 120 | 25. | 25 |
| 2-Butanone | 320 | | ug/l | 120 | 48. | 25 |
| Vinyl acetate | ND | | ug/l | 120 | 25. | 25 |
| 4-Methyl-2-pentanone | ND | | ug/l | 120 | 25. | 25 |
| 2-Hexanone | ND | | ug/l | 120 | 25. | 25 |
| Bromochloromethane | ND | | ug/l | 62 | 18. | 25 |
| 2,2-Dichloropropane | ND | | ug/l | 62 | 18. | 25 |
| 1,2-Dibromoethane | ND | | ug/l | 50 | 16. | 25 |
| 1,3-Dichloropropane | ND | | ug/l | 62 | 18. | 25 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 62 | 18. | 25 |
| Bromobenzene | ND | | ug/l | 62 | 18. | 25 |
| n-Butylbenzene | ND | | ug/l | 62 | 18. | 25 |
| sec-Butylbenzene | ND | | ug/l | 62 | 18. | 25 |
| tert-Butylbenzene | ND | | ug/l | 62 | 18. | 25 |
| o-Chlorotoluene | ND | | ug/l | 62 | 18. | 25 |
| p-Chlorotoluene | ND | | ug/l | 62 | 18. | 25 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 62 | 18. | 25 |
| Hexachlorobutadiene | ND | | ug/l | 62 | 18. | 25 |
| Isopropylbenzene | ND | | ug/l | 62 | 18. | 25 |
| p-Isopropyltoluene | ND | | ug/l | 62 | 18. | 25 |
| Naphthalene | ND | | ug/l | 62 | 18. | 25 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-05 D Date Collected: 10/22/20 11:45

Client ID: EZVI LO D8 Date Received: 10/22/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,4-Dioxane | ND | | ug/l | 6200 | 1500 | 25 |
| Freon-113 | 190 | | ug/l | 62 | 18. | 25 |
| p-Diethylbenzene | ND | | ug/l | 50 | 18. | 25 |
| p-Ethyltoluene | ND | | ug/l | 50 | 18. | 25 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 50 | 14. | 25 |
| Ethyl ether | ND | | ug/l | 62 | 18. | 25 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 62 | 18. | 25 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045902
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-06 D
Client ID: EZVI HI D8
Sample Location: ROCHESTER, NY

Date Collected: 10/22/20 11:50
Date Received: 10/22/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/23/20 11:33
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 62 | 18. | 25 |
| 1,1-Dichloroethane | 470 | | ug/l | 62 | 18. | 25 |
| Chloroform | ND | | ug/l | 62 | 18. | 25 |
| Carbon tetrachloride | ND | | ug/l | 12 | 3.4 | 25 |
| 1,2-Dichloropropane | ND | | ug/l | 25 | 3.4 | 25 |
| Dibromochloromethane | ND | | ug/l | 12 | 3.7 | 25 |
| 1,1,2-Trichloroethane | ND | | ug/l | 38 | 12. | 25 |
| Tetrachloroethene | 170 | | ug/l | 12 | 4.5 | 25 |
| Chlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| Trichlorofluoromethane | ND | | ug/l | 62 | 18. | 25 |
| 1,2-Dichloroethane | ND | | ug/l | 12 | 3.3 | 25 |
| 1,1,1-Trichloroethane | 65 | | ug/l | 62 | 18. | 25 |
| Bromodichloromethane | ND | | ug/l | 12 | 4.8 | 25 |
| trans-1,3-Dichloropropene | ND | | ug/l | 12 | 4.1 | 25 |
| cis-1,3-Dichloropropene | ND | | ug/l | 12 | 3.6 | 25 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 12 | 3.6 | 25 |
| 1,1-Dichloropropene | ND | | ug/l | 62 | 18. | 25 |
| Bromoform | ND | | ug/l | 50 | 16. | 25 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 12 | 4.2 | 25 |
| Benzene | 6.5 | J | ug/l | 12 | 4.0 | 25 |
| Toluene | 34 | J | ug/l | 62 | 18. | 25 |
| Ethylbenzene | ND | | ug/l | 62 | 18. | 25 |
| Chloromethane | ND | | ug/l | 62 | 18. | 25 |
| Bromomethane | ND | | ug/l | 62 | 18. | 25 |
| Vinyl chloride | 290 | | ug/l | 25 | 1.8 | 25 |
| Chloroethane | 160 | | ug/l | 62 | 18. | 25 |
| 1,1-Dichloroethene | 6.6 | J | ug/l | 12 | 4.2 | 25 |
| trans-1,2-Dichloroethene | ND | | ug/l | 62 | 18. | 25 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-06 D Date Collected: 10/22/20 11:50
Client ID: EZVI HI D8 Date Received: 10/22/20
Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 18 | | ug/l | 12 | 4.4 | 25 |
| 1,2-Dichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,3-Dichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,4-Dichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| Methyl tert butyl ether | ND | | ug/l | 62 | 18. | 25 |
| p/m-Xylene | 18 | J | ug/l | 62 | 18. | 25 |
| o-Xylene | ND | | ug/l | 62 | 18. | 25 |
| Xylenes, Total | 18 | J | ug/l | 62 | 18. | 25 |
| cis-1,2-Dichloroethene | 460 | | ug/l | 62 | 18. | 25 |
| 1,2-Dichloroethene, Total | 460 | | ug/l | 62 | 18. | 25 |
| Dibromomethane | ND | | ug/l | 120 | 25. | 25 |
| 1,2,3-Trichloropropane | ND | | ug/l | 62 | 18. | 25 |
| Acrylonitrile | ND | | ug/l | 120 | 38. | 25 |
| Styrene | ND | | ug/l | 62 | 18. | 25 |
| Dichlorodifluoromethane | ND | | ug/l | 120 | 25. | 25 |
| Acetone | 58 | J | ug/l | 120 | 36. | 25 |
| Carbon disulfide | ND | | ug/l | 120 | 25. | 25 |
| 2-Butanone | 1100 | | ug/l | 120 | 48. | 25 |
| Vinyl acetate | ND | | ug/l | 120 | 25. | 25 |
| 4-Methyl-2-pentanone | ND | | ug/l | 120 | 25. | 25 |
| 2-Hexanone | ND | | ug/l | 120 | 25. | 25 |
| Bromochloromethane | ND | | ug/l | 62 | 18. | 25 |
| 2,2-Dichloropropane | ND | | ug/l | 62 | 18. | 25 |
| 1,2-Dibromoethane | ND | | ug/l | 50 | 16. | 25 |
| 1,3-Dichloropropane | ND | | ug/l | 62 | 18. | 25 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 62 | 18. | 25 |
| Bromobenzene | ND | | ug/l | 62 | 18. | 25 |
| n-Butylbenzene | ND | | ug/l | 62 | 18. | 25 |
| sec-Butylbenzene | ND | | ug/l | 62 | 18. | 25 |
| tert-Butylbenzene | ND | | ug/l | 62 | 18. | 25 |
| o-Chlorotoluene | ND | | ug/l | 62 | 18. | 25 |
| p-Chlorotoluene | ND | | ug/l | 62 | 18. | 25 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 62 | 18. | 25 |
| Hexachlorobutadiene | ND | | ug/l | 62 | 18. | 25 |
| Isopropylbenzene | ND | | ug/l | 62 | 18. | 25 |
| p-Isopropyltoluene | ND | | ug/l | 62 | 18. | 25 |
| Naphthalene | ND | | ug/l | 62 | 18. | 25 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-06 D Date Collected: 10/22/20 11:50

Client ID: EZVI HI D8 Date Received: 10/22/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,4-Dioxane | ND | | ug/l | 6200 | 1500 | 25 |
| Freon-113 | 200 | | ug/l | 62 | 18. | 25 |
| p-Diethylbenzene | ND | | ug/l | 50 | 18. | 25 |
| p-Ethyltoluene | ND | | ug/l | 50 | 18. | 25 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 50 | 14. | 25 |
| Ethyl ether | ND | | ug/l | 62 | 18. | 25 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 62 | 18. | 25 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | **136** | Q | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

**SAMPLE RESULTS**

Lab ID: L2045902-07 D
Client ID: CTRL D8
Sample Location: ROCHESTER, NY

Date Collected: 10/22/20 11:55
Date Received: 10/22/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/23/20 10:27
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 570 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 110 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 250 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 2.4 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 4.7 | J | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 370 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 170 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 8.1 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 7.2 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-07 D
Client ID: CTRL D8
Sample Location: ROCHESTER, NY

Date Collected: 10/22/20 11:55
Date Received: 10/22/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 19 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | ND | | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 570 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 580 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 7.9 | J | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | ND | | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-07 D Date Collected: 10/22/20 11:55

Client ID: CTRL D8 Date Received: 10/22/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 120 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 9.2 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 99 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045902
**Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-08 D
Client ID: CTRL D8 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/22/20 12:00
Date Received: 10/22/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/23/20 10:49
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 590 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 100 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 250 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 3.2 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 7.7 | J | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 380 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 180 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 8.0 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 7.2 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-08 D Date Collected: 10/22/20 12:00

Client ID: CTRL D8 DUP Date Received: 10/22/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 20 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | ND | | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 600 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 610 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 13 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | ND | | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2045902

**Project Number:** 20029 **Report Date:** 10/23/20

## SAMPLE RESULTS

Lab ID: L2045902-08 D
Client ID: CTRL D8 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/22/20 12:00
Date Received: 10/22/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 110 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 8.8 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045902
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/23/20 08:38
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1425677-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045902
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/23/20 08:38
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1425677-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2045902
**Report Date:** 10/23/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/23/20 08:38
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1425677-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045902
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1425677-3 WG1425677-4 | | | | | | | | |
| Methylene chloride | 97 | | 99 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 96 | | 98 | | 70-130 | 2 | | 20 |
| Chloroform | 93 | | 95 | | 70-130 | 2 | | 20 |
| Carbon tetrachloride | 90 | | 91 | | 63-132 | 1 | | 20 |
| 1,2-Dichloropropane | 94 | | 94 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 94 | | 94 | | 63-130 | 0 | | 20 |
| 1,1,2-Trichloroethane | 99 | | 99 | | 70-130 | 0 | | 20 |
| Tetrachloroethene | 95 | | 93 | | 70-130 | 2 | | 20 |
| Chlorobenzene | 98 | | 98 | | 75-130 | 0 | | 20 |
| Trichlorofluoromethane | 96 | | 95 | | 62-150 | 1 | | 20 |
| 1,2-Dichloroethane | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,1,1-Trichloroethane | 92 | | 93 | | 67-130 | 1 | | 20 |
| Bromodichloromethane | 93 | | 94 | | 67-130 | 1 | | 20 |
| trans-1,3-Dichloropropene | 91 | | 94 | | 70-130 | 3 | | 20 |
| cis-1,3-Dichloropropene | 91 | | 92 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 93 | | 94 | | 70-130 | 1 | | 20 |
| Bromoform | 86 | | 87 | | 54-136 | 1 | | 20 |
| 1,1,2,2-Tetrachloroethane | 96 | | 94 | | 67-130 | 2 | | 20 |
| Benzene | 96 | | 95 | | 70-130 | 1 | | 20 |
| Toluene | 98 | | 98 | | 70-130 | 0 | | 20 |
| Ethylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Chloromethane | 100 | | 100 | | 64-130 | 0 | | 20 |
| Bromomethane | 89 | | 88 | | 39-139 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045902
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1425677-3 WG1425677-4 | | | | | | | | |
| Vinyl chloride | 100 | | 98 | | 55-140 | 2 | | 20 |
| Chloroethane | 110 | | 100 | | 55-138 | 10 | | 20 |
| 1,1-Dichloroethene | 94 | | 94 | | 61-145 | 0 | | 20 |
| trans-1,2-Dichloroethene | 92 | | 92 | | 70-130 | 0 | | 20 |
| Trichloroethene | 93 | | 93 | | 70-130 | 0 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| 1,3-Dichlorobenzene | 100 | | 99 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 92 | | 89 | | 63-130 | 3 | | 20 |
| p/m-Xylene | 105 | | 105 | | 70-130 | 0 | | 20 |
| o-Xylene | 105 | | 100 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 97 | | 92 | | 70-130 | 5 | | 20 |
| Dibromomethane | 96 | | 96 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichloropropane | 99 | | 93 | | 64-130 | 6 | | 20 |
| Acrylonitrile | 97 | | 98 | | 70-130 | 1 | | 20 |
| Styrene | 105 | | 105 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 110 | | 110 | | 36-147 | 0 | | 20 |
| Acetone | 110 | | 100 | | 58-148 | 10 | | 20 |
| Carbon disulfide | 97 | | 97 | | 51-130 | 0 | | 20 |
| 2-Butanone | 110 | | 110 | | 63-138 | 0 | | 20 |
| Vinyl acetate | 88 | | 89 | | 70-130 | 1 | | 20 |
| 4-Methyl-2-pentanone | 87 | | 82 | | 59-130 | 6 | | 20 |
| 2-Hexanone | 85 | | 87 | | 57-130 | 2 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045902
**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1425677-3 WG1425677-4 | | | | | | | | |
| Bromochloromethane | 100 | | 94 | | 70-130 | 6 | | 20 |
| 2,2-Dichloropropane | 98 | | 99 | | 63-133 | 1 | | 20 |
| 1,2-Dibromoethane | 94 | | 96 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 100 | | 96 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 97 | | 95 | | 64-130 | 2 | | 20 |
| Bromobenzene | 96 | | 95 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 100 | | 100 | | 53-136 | 0 | | 20 |
| sec-Butylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| tert-Butylbenzene | 90 | | 85 | | 70-130 | 6 | | 20 |
| o-Chlorotoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 82 | | 75 | | 41-144 | 9 | | 20 |
| Hexachlorobutadiene | 90 | | 88 | | 63-130 | 2 | | 20 |
| Isopropylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Naphthalene | 75 | | 73 | | 70-130 | 3 | | 20 |
| n-Propylbenzene | 100 | | 100 | | 69-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 78 | | 79 | | 70-130 | 1 | | 20 |
| 1,2,4-Trichlorobenzene | 88 | | 85 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 110 | | 100 | | 64-130 | 10 | | 20 |
| 1,2,4-Trimethylbenzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,4-Dioxane | 98 | | 86 | | 56-162 | 13 | | 20 |
| Freon-113 | 98 | | 99 | | 70-130 | 1 | | 20 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL

**Project Number:** 20029

**Lab Number:** L2045902

**Report Date:** 10/23/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1425677-3 WG1425677-4 | | | | | | | | |
| p-Diethylbenzene | 100 | | 99 | | 70-130 | 1 | | 20 |
| p-Ethyltoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 96 | | 92 | | 70-130 | 4 | | 20 |
| Ethyl ether | 95 | | 95 | | 59-134 | 0 | | 20 |
| trans-1,4-Dichloro-2-butene | 90 | | 94 | | 70-130 | 4 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 98 | | 70-130 |
| Toluene-d8 | 103 | | 103 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 101 | | 70-130 |
| Dibromofluoromethane | 97 | | 97 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2045902
**Report Date:** 10/23/20

## 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(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2045902-01A | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-01B | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-02A | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-02B | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-03A | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-03B | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-04A | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-04B | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-05A | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-05B | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-06A | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-06B | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-07A | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-07B | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-08A | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |
| L2045902-08B | Vial HCl preserved | A | NA | | 2.9 | Y | Absent | | NYTCL-8260(14) |



*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2045902 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

## GLOSSARY

***Acronyms***

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2045902 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

***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.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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.

**F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

**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

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2045902 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

***Data Qualifiers***

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.

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2045902 |
| **Project Number:** | 20029 | **Report Date:** | 10/23/20 |

## REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

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

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

# Certification Information

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

**Westborough Facility**
**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene
**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.
**EPA TO-12** Non-methane organics
**EPA 3C** Fixed gases
**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.

ALPHA ANALYTICAL

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

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

# NEW JERSEY 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: 10/22/20

ALPHA Job #: L2045902

**Client Information**
Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

**Project Information**
Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12786

**Turn-Around Time**
Standard ☐ Due Date: 10/23/20 EOD
Rush (only if pre approved) ☑ # of Days: 1 Day

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

**Regulatory Requirement**
☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☑ Other NYSDOH ELAP

**Billing Information**
☑ Same as Client Info
PO # 4697

**Site Information**
Is this site impacted by Petroleum? Yes ☐
Petroleum Product:

These samples have been previously analyzed by Alpha ☐

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com

* please include Freon-113

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

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs * | Sample Specific Comments | Total Bottles |
|---|---|---|---|---|---|---|---|---|
| 45902-01 | Flow Lo D8 | 10/22/2020 | 11:25 | GW | LC | x | | 2 |
| -02 | Flow Hi D8 | 10/22/2020 | 11:30 | GW | LC | x | | 2 |
| -03 | Target Lo D8 | 10/22/2020 | 11:35 | GW | LC | x | | 2 |
| -04 | Target Hi D8 | 10/22/2020 | 11:40 | GW | LC | x | | 2 |
| -05 | eZVI Lo D8 | 10/22/2020 | 11:45 | GW | LC | x | | 2 |
| -06 | eZVI Hi D8 | 10/22/2020 | 11:50 | GW | LC | x | | 2 |
| -07 | Ctrl D8 | 10/22/2020 | 11:55 | GW | LC | x | | 2 |
| -08 | Ctrl D8 dup | 10/22/2020 | 12:00 | GW | LC | x | | 2 |
| | | | | | | | | |
| | | | | | | | | |

Container Type: G
Preservative: B

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

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

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

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| Rob Maesto | 10/22/20 1438 | Rob Maesto | 10/22/20 1938 |
| Rob Maesto | 10/22/20 2600 | | 10/22/20 2am |

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.

Form No: 01-14 (rev. 30-Sept-2013)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L2046766 |
| Client: | XDD Environmental<br>Mary Scudieri<br>22 Marin Way Unit 3<br>Stratham, NH 03885 |
| ATTN: | Laurel Crawford |
| Phone: | (603) 778-1100 |
| Project Name: | FESL |
| Project Number: | 20029 |
| Report Date: | 10/29/20 |



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:** FESL
**Project Number:** 20029

**Lab Number:** L2046766
**Report Date:** 10/29/20

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|---|---|---|---|---|---|
| L2046766-01 | FLOW LO D13 | WATER | ROCHESTER, NY | 10/27/20 11:25 | 10/27/20 |
| L2046766-02 | FLOW HI D13 | WATER | ROCHESTER, NY | 10/27/20 11:30 | 10/27/20 |
| L2046766-03 | TARGET LO D13 | WATER | ROCHESTER, NY | 10/27/20 11:35 | 10/27/20 |
| L2046766-04 | TARGET HI D13 | WATER | ROCHESTER, NY | 10/27/20 11:40 | 10/27/20 |
| L2046766-05 | EZVI LO D13 | WATER | ROCHESTER, NY | 10/27/20 11:45 | 10/27/20 |
| L2046766-06 | EZVI HI D13 | WATER | ROCHESTER, NY | 10/27/20 11:50 | 10/27/20 |
| L2046766-07 | CTRL D13 | WATER | ROCHESTER, NY | 10/27/20 11:55 | 10/27/20 |
| L2046766-08 | CTRL D13 DUP | WATER | ROCHESTER, NY | 10/27/20 12:00 | 10/27/20 |

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2046766 |
| **Project Number:** | 20029 | **Report Date:** | 10/29/20 |

## 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:** FESL
**Project Number:** 20029

**Lab Number:** L2046766
**Report Date:** 10/29/20

**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

L2046766-05 and -06: The pH of the sample was greater than two; however, the sample was analyzed within the method required holding time.

L2046766-05 and -06: The sample has elevated detection limits due to the dilution required by the sample matrix (white, cloudy).

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: 10/29/20

# ORGANICS

# VOLATILES

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2046766
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-01 D
Client ID: FLOW LO D13
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 11:25
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/28/20 14:12
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 550 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 78 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 42 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 4.7 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 16 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 300 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 160 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 4.9 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 3.9 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-01 D Date Collected: 10/27/20 11:25

Client ID: FLOW LO D13 Date Received: 10/27/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 6.8 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 4.0 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 4.0 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 520 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 520 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 12 | J | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 8.5 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-01 D Date Collected: 10/27/20 11:25

Client ID: FLOW LO D13 Date Received: 10/27/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 35 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 8.4 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2046766-02 D
Client ID: FLOW HI D13
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 11:30
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/28/20 14:38
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 500 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 32 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 4.2 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 12 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 120 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 160 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | ND | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-02 D
Client ID: FLOW HI D13
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 11:30
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 1.4 | J | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | ND | | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 230 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 230 | | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 7.5 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | ND | | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-02 D Date Collected: 10/27/20 11:30

Client ID: FLOW HI D13 Date Received: 10/27/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 14 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 9.0 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2046766
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-03 D
Client ID: TARGET LO D13
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 11:35
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/28/20 15:03
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 510 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 58 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 5.5 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 18 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | 7.1 | J | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 210 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 160 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | ND | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-03 D
Client ID: TARGET LO D13
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 11:35
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 2.8 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 4.6 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 4.6 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 420 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 420 | | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 13 | J | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 8.7 | J | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-03 D Date Collected: 10/27/20 11:35

Client ID: TARGET LO D13 Date Received: 10/27/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 7.0 | J | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 7.9 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 93 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-04 D
Client ID: TARGET HI D13
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 11:40
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/28/20 15:29
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 490 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 16 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 6.8 | | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 19 | | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | 14 | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 44 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 170 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | ND | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-04 D
Client ID: TARGET HI D13
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 11:40
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 1.2 | J | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | 4.3 | J | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | 4.3 | J | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 110 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 110 | | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | 24 | J | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | 15 | J | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-04 D Date Collected: 10/27/20 11:40

Client ID: TARGET HI D13 Date Received: 10/27/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | ND | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 8.6 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 99 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 93 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2046766-05 D
Client ID: EZVI LO D13
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 11:45
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/28/20 16:45
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 62 | 18. | 25 |
| 1,1-Dichloroethane | 520 | | ug/l | 62 | 18. | 25 |
| Chloroform | ND | | ug/l | 62 | 18. | 25 |
| Carbon tetrachloride | ND | | ug/l | 12 | 3.4 | 25 |
| 1,2-Dichloropropane | ND | | ug/l | 25 | 3.4 | 25 |
| Dibromochloromethane | ND | | ug/l | 12 | 3.7 | 25 |
| 1,1,2-Trichloroethane | ND | | ug/l | 38 | 12. | 25 |
| Tetrachloroethene | 190 | | ug/l | 12 | 4.5 | 25 |
| Chlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| Trichlorofluoromethane | ND | | ug/l | 62 | 18. | 25 |
| 1,2-Dichloroethane | ND | | ug/l | 12 | 3.3 | 25 |
| 1,1,1-Trichloroethane | 18 | J | ug/l | 62 | 18. | 25 |
| Bromodichloromethane | ND | | ug/l | 12 | 4.8 | 25 |
| trans-1,3-Dichloropropene | ND | | ug/l | 12 | 4.1 | 25 |
| cis-1,3-Dichloropropene | ND | | ug/l | 12 | 3.6 | 25 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 12 | 3.6 | 25 |
| 1,1-Dichloropropene | ND | | ug/l | 62 | 18. | 25 |
| Bromoform | ND | | ug/l | 50 | 16. | 25 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 12 | 4.2 | 25 |
| Benzene | 4.9 | J | ug/l | 12 | 4.0 | 25 |
| Toluene | 24 | J | ug/l | 62 | 18. | 25 |
| Ethylbenzene | ND | | ug/l | 62 | 18. | 25 |
| Chloromethane | ND | | ug/l | 62 | 18. | 25 |
| Bromomethane | ND | | ug/l | 62 | 18. | 25 |
| Vinyl chloride | 320 | | ug/l | 25 | 1.8 | 25 |
| Chloroethane | 170 | | ug/l | 62 | 18. | 25 |
| 1,1-Dichloroethene | 4.9 | J | ug/l | 12 | 4.2 | 25 |
| trans-1,2-Dichloroethene | ND | | ug/l | 62 | 18. | 25 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-05 D
Client ID: EZVI LO D13
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 11:45
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 17 | | ug/l | 12 | 4.4 | 25 |
| 1,2-Dichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,3-Dichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,4-Dichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| Methyl tert butyl ether | ND | | ug/l | 62 | 18. | 25 |
| p/m-Xylene | ND | | ug/l | 62 | 18. | 25 |
| o-Xylene | ND | | ug/l | 62 | 18. | 25 |
| Xylenes, Total | ND | | ug/l | 62 | 18. | 25 |
| cis-1,2-Dichloroethene | 520 | | ug/l | 62 | 18. | 25 |
| 1,2-Dichloroethene, Total | 520 | | ug/l | 62 | 18. | 25 |
| Dibromomethane | ND | | ug/l | 120 | 25. | 25 |
| 1,2,3-Trichloropropane | ND | | ug/l | 62 | 18. | 25 |
| Acrylonitrile | ND | | ug/l | 120 | 38. | 25 |
| Styrene | ND | | ug/l | 62 | 18. | 25 |
| Dichlorodifluoromethane | ND | | ug/l | 120 | 25. | 25 |
| Acetone | ND | | ug/l | 120 | 36. | 25 |
| Carbon disulfide | ND | | ug/l | 120 | 25. | 25 |
| 2-Butanone | 230 | | ug/l | 120 | 48. | 25 |
| Vinyl acetate | ND | | ug/l | 120 | 25. | 25 |
| 4-Methyl-2-pentanone | ND | | ug/l | 120 | 25. | 25 |
| 2-Hexanone | ND | | ug/l | 120 | 25. | 25 |
| Bromochloromethane | ND | | ug/l | 62 | 18. | 25 |
| 2,2-Dichloropropane | ND | | ug/l | 62 | 18. | 25 |
| 1,2-Dibromoethane | ND | | ug/l | 50 | 16. | 25 |
| 1,3-Dichloropropane | ND | | ug/l | 62 | 18. | 25 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 62 | 18. | 25 |
| Bromobenzene | ND | | ug/l | 62 | 18. | 25 |
| n-Butylbenzene | ND | | ug/l | 62 | 18. | 25 |
| sec-Butylbenzene | ND | | ug/l | 62 | 18. | 25 |
| tert-Butylbenzene | ND | | ug/l | 62 | 18. | 25 |
| o-Chlorotoluene | ND | | ug/l | 62 | 18. | 25 |
| p-Chlorotoluene | ND | | ug/l | 62 | 18. | 25 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 62 | 18. | 25 |
| Hexachlorobutadiene | ND | | ug/l | 62 | 18. | 25 |
| Isopropylbenzene | ND | | ug/l | 62 | 18. | 25 |
| p-Isopropyltoluene | ND | | ug/l | 62 | 18. | 25 |
| Naphthalene | ND | | ug/l | 62 | 18. | 25 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2046766-05 D Date Collected: 10/27/20 11:45

Client ID: EZVI LO D13 Date Received: 10/27/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,4-Dioxane | ND | | ug/l | 6200 | 1500 | 25 |
| Freon-113 | 52 | J | ug/l | 62 | 18. | 25 |
| p-Diethylbenzene | ND | | ug/l | 50 | 18. | 25 |
| p-Ethyltoluene | ND | | ug/l | 50 | 18. | 25 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 50 | 14. | 25 |
| Ethyl ether | ND | | ug/l | 62 | 18. | 25 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 62 | 18. | 25 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2046766
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-06 D
Client ID: EZVI HI D13
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 11:50
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/28/20 17:10
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 62 | 18. | 25 |
| 1,1-Dichloroethane | 380 | | ug/l | 62 | 18. | 25 |
| Chloroform | ND | | ug/l | 62 | 18. | 25 |
| Carbon tetrachloride | ND | | ug/l | 12 | 3.4 | 25 |
| 1,2-Dichloropropane | ND | | ug/l | 25 | 3.4 | 25 |
| Dibromochloromethane | ND | | ug/l | 12 | 3.7 | 25 |
| 1,1,2-Trichloroethane | ND | | ug/l | 38 | 12. | 25 |
| Tetrachloroethene | 120 | | ug/l | 12 | 4.5 | 25 |
| Chlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| Trichlorofluoromethane | ND | | ug/l | 62 | 18. | 25 |
| 1,2-Dichloroethane | ND | | ug/l | 12 | 3.3 | 25 |
| 1,1,1-Trichloroethane | ND | | ug/l | 62 | 18. | 25 |
| Bromodichloromethane | ND | | ug/l | 12 | 4.8 | 25 |
| trans-1,3-Dichloropropene | ND | | ug/l | 12 | 4.1 | 25 |
| cis-1,3-Dichloropropene | ND | | ug/l | 12 | 3.6 | 25 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 12 | 3.6 | 25 |
| 1,1-Dichloropropene | ND | | ug/l | 62 | 18. | 25 |
| Bromoform | ND | | ug/l | 50 | 16. | 25 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 12 | 4.2 | 25 |
| Benzene | 4.1 | J | ug/l | 12 | 4.0 | 25 |
| Toluene | 24 | J | ug/l | 62 | 18. | 25 |
| Ethylbenzene | ND | | ug/l | 62 | 18. | 25 |
| Chloromethane | ND | | ug/l | 62 | 18. | 25 |
| Bromomethane | ND | | ug/l | 62 | 18. | 25 |
| Vinyl chloride | 240 | | ug/l | 25 | 1.8 | 25 |
| Chloroethane | 140 | | ug/l | 62 | 18. | 25 |
| 1,1-Dichloroethene | 4.2 | J | ug/l | 12 | 4.2 | 25 |
| trans-1,2-Dichloroethene | ND | | ug/l | 62 | 18. | 25 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-06 D
Client ID: EZVI HI D13
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 11:50
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 12 | | ug/l | 12 | 4.4 | 25 |
| 1,2-Dichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,3-Dichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,4-Dichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| Methyl tert butyl ether | ND | | ug/l | 62 | 18. | 25 |
| p/m-Xylene | ND | | ug/l | 62 | 18. | 25 |
| o-Xylene | ND | | ug/l | 62 | 18. | 25 |
| Xylenes, Total | ND | | ug/l | 62 | 18. | 25 |
| cis-1,2-Dichloroethene | 380 | | ug/l | 62 | 18. | 25 |
| 1,2-Dichloroethene, Total | 380 | | ug/l | 62 | 18. | 25 |
| Dibromomethane | ND | | ug/l | 120 | 25. | 25 |
| 1,2,3-Trichloropropane | ND | | ug/l | 62 | 18. | 25 |
| Acrylonitrile | ND | | ug/l | 120 | 38. | 25 |
| Styrene | ND | | ug/l | 62 | 18. | 25 |
| Dichlorodifluoromethane | ND | | ug/l | 120 | 25. | 25 |
| Acetone | 100 | J | ug/l | 120 | 36. | 25 |
| Carbon disulfide | ND | | ug/l | 120 | 25. | 25 |
| 2-Butanone | 780 | | ug/l | 120 | 48. | 25 |
| Vinyl acetate | ND | | ug/l | 120 | 25. | 25 |
| 4-Methyl-2-pentanone | ND | | ug/l | 120 | 25. | 25 |
| 2-Hexanone | ND | | ug/l | 120 | 25. | 25 |
| Bromochloromethane | ND | | ug/l | 62 | 18. | 25 |
| 2,2-Dichloropropane | ND | | ug/l | 62 | 18. | 25 |
| 1,2-Dibromoethane | ND | | ug/l | 50 | 16. | 25 |
| 1,3-Dichloropropane | ND | | ug/l | 62 | 18. | 25 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 62 | 18. | 25 |
| Bromobenzene | ND | | ug/l | 62 | 18. | 25 |
| n-Butylbenzene | ND | | ug/l | 62 | 18. | 25 |
| sec-Butylbenzene | ND | | ug/l | 62 | 18. | 25 |
| tert-Butylbenzene | ND | | ug/l | 62 | 18. | 25 |
| o-Chlorotoluene | ND | | ug/l | 62 | 18. | 25 |
| p-Chlorotoluene | ND | | ug/l | 62 | 18. | 25 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 62 | 18. | 25 |
| Hexachlorobutadiene | ND | | ug/l | 62 | 18. | 25 |
| Isopropylbenzene | ND | | ug/l | 62 | 18. | 25 |
| p-Isopropyltoluene | ND | | ug/l | 62 | 18. | 25 |
| Naphthalene | ND | | ug/l | 62 | 18. | 25 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

**SAMPLE RESULTS**

Lab ID: L2046766-06 D Date Collected: 10/27/20 11:50

Client ID: EZVI HI D13 Date Received: 10/27/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 62 | 18. | 25 |
| 1,4-Dioxane | ND | | ug/l | 6200 | 1500 | 25 |
| Freon-113 | 50 | J | ug/l | 62 | 18. | 25 |
| p-Diethylbenzene | ND | | ug/l | 50 | 18. | 25 |
| p-Ethyltoluene | ND | | ug/l | 50 | 18. | 25 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 50 | 14. | 25 |
| Ethyl ether | ND | | ug/l | 62 | 18. | 25 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 62 | 18. | 25 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 105 | | 70-130 |
| 4-Bromofluorobenzene | 105 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2046766
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-07 D
Client ID: CTRL D13
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 11:55
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/28/20 15:54
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 540 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 97 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 230 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 1.8 | J | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 4.3 | J | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 360 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 180 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 7.5 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 6.4 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-07 D
Client ID: CTRL D13
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 11:55
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 18 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | ND | | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 550 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 560 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | ND | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | ND | | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-07 D Date Collected: 10/27/20 11:55

Client ID: CTRL D13 Date Received: 10/27/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 93 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 7.7 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

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

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2046766
**Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-08 D
Client ID: CTRL D13 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 12:00
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/28/20 16:20
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethane | 520 | | ug/l | 12 | 3.5 | 5 |
| Chloroform | ND | | ug/l | 12 | 3.5 | 5 |
| Carbon tetrachloride | ND | | ug/l | 2.5 | 0.67 | 5 |
| 1,2-Dichloropropane | ND | | ug/l | 5.0 | 0.68 | 5 |
| Dibromochloromethane | ND | | ug/l | 2.5 | 0.74 | 5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 7.5 | 2.5 | 5 |
| Tetrachloroethene | 99 | | ug/l | 2.5 | 0.90 | 5 |
| Chlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Trichlorofluoromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethane | ND | | ug/l | 2.5 | 0.66 | 5 |
| 1,1,1-Trichloroethane | 220 | | ug/l | 12 | 3.5 | 5 |
| Bromodichloromethane | ND | | ug/l | 2.5 | 0.96 | 5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.82 | 5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.5 | 0.72 | 5 |
| 1,1-Dichloropropene | ND | | ug/l | 12 | 3.5 | 5 |
| Bromoform | ND | | ug/l | 10 | 3.2 | 5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.84 | 5 |
| Benzene | 2.3 | J | ug/l | 2.5 | 0.80 | 5 |
| Toluene | 5.5 | J | ug/l | 12 | 3.5 | 5 |
| Ethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Chloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromomethane | ND | | ug/l | 12 | 3.5 | 5 |
| Vinyl chloride | 350 | | ug/l | 5.0 | 0.36 | 5 |
| Chloroethane | 170 | | ug/l | 12 | 3.5 | 5 |
| 1,1-Dichloroethene | 6.8 | | ug/l | 2.5 | 0.84 | 5 |
| trans-1,2-Dichloroethene | 7.0 | J | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-08 D
Client ID: CTRL D13 DUP
Sample Location: ROCHESTER, NY

Date Collected: 10/27/20 12:00
Date Received: 10/27/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 18 | | ug/l | 2.5 | 0.88 | 5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| Methyl tert butyl ether | ND | | ug/l | 12 | 3.5 | 5 |
| p/m-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Xylene | ND | | ug/l | 12 | 3.5 | 5 |
| Xylenes, Total | ND | | ug/l | 12 | 3.5 | 5 |
| cis-1,2-Dichloroethene | 530 | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dichloroethene, Total | 540 | J | ug/l | 12 | 3.5 | 5 |
| Dibromomethane | ND | | ug/l | 25 | 5.0 | 5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Acrylonitrile | ND | | ug/l | 25 | 7.5 | 5 |
| Styrene | ND | | ug/l | 12 | 3.5 | 5 |
| Dichlorodifluoromethane | ND | | ug/l | 25 | 5.0 | 5 |
| Acetone | ND | | ug/l | 25 | 7.3 | 5 |
| Carbon disulfide | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Butanone | ND | | ug/l | 25 | 9.7 | 5 |
| Vinyl acetate | ND | | ug/l | 25 | 5.0 | 5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 25 | 5.0 | 5 |
| 2-Hexanone | ND | | ug/l | 25 | 5.0 | 5 |
| Bromochloromethane | ND | | ug/l | 12 | 3.5 | 5 |
| 2,2-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromoethane | ND | | ug/l | 10 | 3.2 | 5 |
| 1,3-Dichloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 12 | 3.5 | 5 |
| Bromobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| n-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| sec-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| tert-Butylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| o-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Chlorotoluene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 12 | 3.5 | 5 |
| Hexachlorobutadiene | ND | | ug/l | 12 | 3.5 | 5 |
| Isopropylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| p-Isopropyltoluene | ND | | ug/l | 12 | 3.5 | 5 |
| Naphthalene | ND | | ug/l | 12 | 3.5 | 5 |

**Project Name:** FESL **Lab Number:** L2046766

**Project Number:** 20029 **Report Date:** 10/29/20

## SAMPLE RESULTS

Lab ID: L2046766-08 D Date Collected: 10/27/20 12:00

Client ID: CTRL D13 DUP Date Received: 10/27/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 12 | 3.5 | 5 |
| 1,4-Dioxane | ND | | ug/l | 1200 | 300 | 5 |
| Freon-113 | 90 | | ug/l | 12 | 3.5 | 5 |
| p-Diethylbenzene | ND | | ug/l | 10 | 3.5 | 5 |
| p-Ethyltoluene | ND | | ug/l | 10 | 3.5 | 5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 10 | 2.7 | 5 |
| Ethyl ether | 9.0 | J | ug/l | 12 | 3.5 | 5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 12 | 3.5 | 5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 93 | | 70-130 |
| Dibromofluoromethane | 98 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2046766
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/28/20 08:49
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1427536-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2046766
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/28/20 08:49
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1427536-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2046766
**Report Date:** 10/29/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/28/20 08:49
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1427536-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 93 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2046766
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1427536-3 WG1427536-4 | | | | | | | | |
| Methylene chloride | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,1-Dichloroethane | 110 | | 100 | | 70-130 | 10 | | 20 |
| Chloroform | 110 | | 110 | | 70-130 | 0 | | 20 |
| Carbon tetrachloride | 120 | | 110 | | 63-132 | 9 | | 20 |
| 1,2-Dichloropropane | 100 | | 100 | | 70-130 | 0 | | 20 |
| Dibromochloromethane | 100 | | 99 | | 63-130 | 1 | | 20 |
| 1,1,2-Trichloroethane | 93 | | 95 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 100 | | 98 | | 70-130 | 2 | | 20 |
| Chlorobenzene | 97 | | 96 | | 75-130 | 1 | | 20 |
| Trichlorofluoromethane | 110 | | 100 | | 62-150 | 10 | | 20 |
| 1,2-Dichloroethane | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,1,1-Trichloroethane | 110 | | 100 | | 67-130 | 10 | | 20 |
| Bromodichloromethane | 110 | | 110 | | 67-130 | 0 | | 20 |
| trans-1,3-Dichloropropene | 93 | | 91 | | 70-130 | 2 | | 20 |
| cis-1,3-Dichloropropene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1-Dichloropropene | 100 | | 98 | | 70-130 | 2 | | 20 |
| Bromoform | 100 | | 100 | | 54-136 | 0 | | 20 |
| 1,1,2,2-Tetrachloroethane | 88 | | 89 | | 67-130 | 1 | | 20 |
| Benzene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Toluene | 98 | | 96 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 98 | | 95 | | 70-130 | 3 | | 20 |
| Chloromethane | 100 | | 100 | | 64-130 | 0 | | 20 |
| Bromomethane | 120 | | 110 | | 39-139 | 9 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2046766
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1427536-3 WG1427536-4 | | | | | | | | |
| Vinyl chloride | 120 | | 110 | | 55-140 | 9 | | 20 |
| Chloroethane | **150** | Q | **140** | Q | 55-138 | 7 | | 20 |
| 1,1-Dichloroethene | 110 | | 98 | | 61-145 | 12 | | 20 |
| trans-1,2-Dichloroethene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Trichloroethene | 110 | | 110 | | 70-130 | 0 | | 20 |
| 1,2-Dichlorobenzene | 95 | | 97 | | 70-130 | 2 | | 20 |
| 1,3-Dichlorobenzene | 100 | | 99 | | 70-130 | 1 | | 20 |
| 1,4-Dichlorobenzene | 96 | | 98 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 100 | | 100 | | 63-130 | 0 | | 20 |
| p/m-Xylene | 100 | | 95 | | 70-130 | 5 | | 20 |
| o-Xylene | 95 | | 95 | | 70-130 | 0 | | 20 |
| cis-1,2-Dichloroethene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Dibromomethane | 110 | | 110 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichloropropane | 84 | | 88 | | 64-130 | 5 | | 20 |
| Acrylonitrile | 100 | | 100 | | 70-130 | 0 | | 20 |
| Styrene | 95 | | 95 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 91 | | 82 | | 36-147 | 10 | | 20 |
| Acetone | 110 | | 110 | | 58-148 | 0 | | 20 |
| Carbon disulfide | 110 | | 99 | | 51-130 | 11 | | 20 |
| 2-Butanone | 110 | | 110 | | 63-138 | 0 | | 20 |
| Vinyl acetate | 110 | | 100 | | 70-130 | 10 | | 20 |
| 4-Methyl-2-pentanone | 88 | | 90 | | 59-130 | 2 | | 20 |
| 2-Hexanone | 82 | | 86 | | 57-130 | 5 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2046766
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1427536-3 WG1427536-4 | | | | | | | | |
| Bromochloromethane | 120 | | 110 | | 70-130 | 9 | | 20 |
| 2,2-Dichloropropane | 120 | | 110 | | 63-133 | 9 | | 20 |
| 1,2-Dibromoethane | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 92 | | 93 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 97 | | 96 | | 64-130 | 1 | | 20 |
| Bromobenzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 95 | | 94 | | 53-136 | 1 | | 20 |
| sec-Butylbenzene | 93 | | 92 | | 70-130 | 1 | | 20 |
| tert-Butylbenzene | 95 | | 93 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 93 | | 93 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 93 | | 92 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | 86 | | 85 | | 41-144 | 1 | | 20 |
| Hexachlorobutadiene | 100 | | 100 | | 63-130 | 0 | | 20 |
| Isopropylbenzene | 96 | | 95 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 120 | | 110 | | 70-130 | 9 | | 20 |
| Naphthalene | 88 | | 89 | | 70-130 | 1 | | 20 |
| n-Propylbenzene | 95 | | 93 | | 69-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 90 | | 96 | | 70-130 | 6 | | 20 |
| 1,2,4-Trichlorobenzene | 94 | | 95 | | 70-130 | 1 | | 20 |
| 1,3,5-Trimethylbenzene | 92 | | 91 | | 64-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 94 | | 93 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | 84 | | 82 | | 56-162 | 2 | | 20 |
| Freon-113 | 110 | | 100 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2046766
**Report Date:** 10/29/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1427536-3 WG1427536-4 | | | | | | | | |
| p-Diethylbenzene | 95 | | 92 | | 70-130 | 3 | | 20 |
| p-Ethyltoluene | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 92 | | 91 | | 70-130 | 1 | | 20 |
| Ethyl ether | 100 | | 97 | | 59-134 | 3 | | 20 |
| trans-1,4-Dichloro-2-butene | 90 | | 89 | | 70-130 | 1 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 94 | | 93 | | 70-130 |
| Toluene-d8 | 90 | | 88 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 90 | | 70-130 |
| Dibromofluoromethane | 100 | | 98 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2046766
**Report Date:** 10/29/20

## 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(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2046766-01A | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-01B | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-02A | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-02B | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-03A | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-03B | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-04A | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-04B | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-05A | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-05B | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-06A | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-06B | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-07A | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-07B | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-08A | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |
| L2046766-08B | Vial HCl preserved | A | NA | | 2.6 | Y | Absent | | NYTCL-8260(14) |



*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2046766 |
| **Project Number:** | 20029 | **Report Date:** | 10/29/20 |

## GLOSSARY

***Acronyms***

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2046766 |
| **Project Number:** | 20029 | **Report Date:** | 10/29/20 |

***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.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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.

**F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

**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

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2046766 |
| **Project Number:** | 20029 | **Report Date:** | 10/29/20 |

***Data Qualifiers***

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.

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2046766
**Report Date:** 10/29/20

## REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

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

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

# Certification Information

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

**Westborough Facility**
**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene
**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.
**EPA TO-12** Non-methane organics
**EPA 3C** Fixed gases
**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 JERSEY CHAIN OF CUSTODY

ALPHA ANALYTICAL

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

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

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

Page 1 of 1

Date Rec'd in Lab: 10/27/20

ALPHA Job #: L2076766

**Client Information**
Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

**Project Information**
Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12786

**Turn-Around Time**
Standard ☐
Rush (only if pre approved) ☑
Due Date: 10/29/20 EOD
# of Days: 2 Day

These samples have been previously analyzed by Alpha ☐

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

**Regulatory Requirement**
☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☑ Other NYSDOH ELAP

**Billing Information**
☑ Same as Client Info
PO # 4697

**Site Information**
Is this site impacted by Petroleum? Yes ☐
Petroleum Product:

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com

* please include Freon-113

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

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs * | Sample Specific Comments | Total Bottles |
|---|---|---|---|---|---|---|---|---|
| 46766-1 | Flow Lo D13 | 10/27/2020 | 11:25 | GW | LC | x | | 2 |
| -02 | Flow Hi D13 | 10/27/2020 | 11:30 | GW | LC | x | | 2 |
| -03 | Target Lo D13 | 10/27/2020 | 11:35 | GW | LC | x | | 2 |
| -04 | Target Hi D13 | 10/27/2020 | 11:40 | GW | LC | x | | 2 |
| -05 | eZVI Lo D13 | 10/27/2020 | 11:45 | GW | LC | x | | 2 |
| -06 | eZVI Hi D13 | 10/27/2020 | 11:50 | GW | LC | x | | 2 |
| -07 | Ctrl D13 | 10/27/2020 | 11:55 | GW | LC | x | | 2 |
| -08 | Ctrl D13 dup | 10/27/2020 | 12:00 | GW | LC | x | | 2 |
| | | | | | | | | |
| | | | | | | | | |

Container Type: G
Preservative: B

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

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

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

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 10/27/20 1502 | TG-yn MA | |
| TG-yn MA | 10.27.20 1910 | Mellen MA | 10/27/20 1960 |

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.

Form No: 01-14 (rev. 30-Sept-2013)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L2049310 |
| Client: | XDD Environmental<br>Mary Scudieri<br>22 Marin Way Unit 3<br>Stratham, NH 03885 |
| ATTN: | Laurel Crawford |
| Phone: | (603) 778-1100 |
| Project Name: | FESL |
| Project Number: | 20029 |
| Report Date: | 11/16/20 |



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:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|---|---|---|---|---|---|
| L2049310-01 | CTRL D25 | WATER | ROCHESTER, NY | 11/09/20 09:20 | 11/09/20 |
| L2049310-02 | CTRL D25 DUP | WATER | ROCHESTER, NY | 11/09/20 09:25 | 11/09/20 |
| L2049310-03 | FLOW HI D25 | WATER | ROCHESTER, NY | 11/09/20 09:30 | 11/09/20 |
| L2049310-04 | TARGET HI D25 | WATER | ROCHESTER, NY | 11/09/20 09:35 | 11/09/20 |
| L2049310-05 | EZVI HI D25 | WATER | ROCHESTER, NY | 11/09/20 09:40 | 11/09/20 |

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2049310 |
| **Project Number:** | 20029 | **Report Date:** | 11/16/20 |

## 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:** | FESL | **Lab Number:** | L2049310 |
| **Project Number:** | 20029 | **Report Date:** | 11/16/20 |

**Case Narrative (continued)**

Report Submission

November 16, 2020: This final report includes the results of all requested analyses.

November 12, 2020: 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

L2049310-01 and -01D2: The analysis was performed utilizing a compromised vial.

L2049310-05: The pH of the sample was greater than two; however, the sample was analyzed within the method required holding time.

L2049310-05: The sample has elevated detection limits due to the dilution required by the sample matrix (cloudy).

Dissolved Gases

L2049310-02: The sample was collected in pre-preserved vials; however, the pH of the sample was determined to be greater than two.

Sulfate

L2049310-05: The sample has an elevated detection limit due to the dilution required by the sample matrix.

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

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 11/16/20

# ORGANICS

# VOLATILES

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-01
Client ID: CTRL D25
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:20
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 11/11/20 08:07
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Dissolved Gases by GC - Mansfield Lab** | | | | | | | |
| Methane | 48.7 | | ug/l | 2.00 | 2.00 | 1 | A |
| Ethene | 39.1 | | ug/l | 0.500 | 0.500 | 1 | A |
| Ethane | 1.70 | | ug/l | 0.500 | 0.500 | 1 | A |

**Project Name:** FESL **Lab Number:** L2049310

**Project Number:** 20029 **Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-01 D2 Date Collected: 11/09/20 09:20
Client ID: CTRL D25 Date Received: 11/09/20
Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 11/12/20 02:21
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,1-Dichloroethane | 550 | E | ug/l | 5.0 | 1.4 | 2 |
| Chloroform | ND | | ug/l | 5.0 | 1.4 | 2 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | 0.27 | 2 |
| 1,2-Dichloropropane | ND | | ug/l | 2.0 | 0.27 | 2 |
| Dibromochloromethane | ND | | ug/l | 1.0 | 0.30 | 2 |
| 1,1,2-Trichloroethane | ND | | ug/l | 3.0 | 1.0 | 2 |
| Tetrachloroethene | 81 | | ug/l | 1.0 | 0.36 | 2 |
| Chlorobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Trichlorofluoromethane | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | 0.26 | 2 |
| 1,1,1-Trichloroethane | 200 | | ug/l | 5.0 | 1.4 | 2 |
| Bromodichloromethane | ND | | ug/l | 1.0 | 0.38 | 2 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.0 | 0.33 | 2 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.0 | 0.29 | 2 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 1.0 | 0.29 | 2 |
| 1,1-Dichloropropene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Bromoform | ND | | ug/l | 4.0 | 1.3 | 2 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | 0.33 | 2 |
| Benzene | 3.0 | | ug/l | 1.0 | 0.32 | 2 |
| Toluene | 7.5 | | ug/l | 5.0 | 1.4 | 2 |
| Ethylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Chloromethane | ND | | ug/l | 5.0 | 1.4 | 2 |
| Bromomethane | ND | | ug/l | 5.0 | 1.4 | 2 |
| Vinyl chloride | 300 | | ug/l | 2.0 | 0.14 | 2 |
| Chloroethane | 140 | | ug/l | 5.0 | 1.4 | 2 |
| 1,1-Dichloroethene | 6.4 | | ug/l | 1.0 | 0.34 | 2 |
| trans-1,2-Dichloroethene | 6.6 | | ug/l | 5.0 | 1.4 | 2 |

**Project Name:** FESL **Lab Number:** L2049310

**Project Number:** 20029 **Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-01 D2 Date Collected: 11/09/20 09:20

Client ID: CTRL D25 Date Received: 11/09/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 17 | | ug/l | 1.0 | 0.35 | 2 |
| 1,2-Dichlorobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,3-Dichlorobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,4-Dichlorobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Methyl tert butyl ether | ND | | ug/l | 5.0 | 1.4 | 2 |
| p/m-Xylene | ND | | ug/l | 5.0 | 1.4 | 2 |
| o-Xylene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Xylenes, Total | ND | | ug/l | 5.0 | 1.4 | 2 |
| cis-1,2-Dichloroethene | 560 | E | ug/l | 5.0 | 1.4 | 2 |
| Dibromomethane | ND | | ug/l | 10 | 2.0 | 2 |
| 1,2,3-Trichloropropane | ND | | ug/l | 5.0 | 1.4 | 2 |
| Acrylonitrile | ND | | ug/l | 10 | 3.0 | 2 |
| Styrene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Dichlorodifluoromethane | ND | | ug/l | 10 | 2.0 | 2 |
| Acetone | 11 | | ug/l | 10 | 2.9 | 2 |
| Carbon disulfide | ND | | ug/l | 10 | 2.0 | 2 |
| 2-Butanone | ND | | ug/l | 10 | 3.9 | 2 |
| Vinyl acetate | ND | | ug/l | 10 | 2.0 | 2 |
| 4-Methyl-2-pentanone | ND | | ug/l | 10 | 2.0 | 2 |
| 2-Hexanone | ND | | ug/l | 10 | 2.0 | 2 |
| Bromochloromethane | ND | | ug/l | 5.0 | 1.4 | 2 |
| 2,2-Dichloropropane | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,2-Dibromoethane | ND | | ug/l | 4.0 | 1.3 | 2 |
| 1,3-Dichloropropane | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 5.0 | 1.4 | 2 |
| Bromobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| n-Butylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| sec-Butylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| tert-Butylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| o-Chlorotoluene | ND | | ug/l | 5.0 | 1.4 | 2 |
| p-Chlorotoluene | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 5.0 | 1.4 | 2 |
| Hexachlorobutadiene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Isopropylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| p-Isopropyltoluene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Naphthalene | ND | | ug/l | 5.0 | 1.4 | 2 |
| n-Propylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |

**Project Name:** FESL **Lab Number:** L2049310

**Project Number:** 20029 **Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-01 D2 Date Collected: 11/09/20 09:20

Client ID: CTRL D25 Date Received: 11/09/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,4-Dioxane | 190 | J | ug/l | 500 | 120 | 2 |
| Freon-113 | 56 | | ug/l | 5.0 | 1.4 | 2 |
| p-Diethylbenzene | ND | | ug/l | 4.0 | 1.4 | 2 |
| p-Ethyltoluene | ND | | ug/l | 4.0 | 1.4 | 2 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 4.0 | 1.1 | 2 |
| Ethyl ether | 9.5 | | ug/l | 5.0 | 1.4 | 2 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 5.0 | 1.4 | 2 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2049310
**Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-01 D
Client ID: CTRL D25
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:20
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 11/12/20 01:59
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| 1,1-Dichloroethane | 530 | | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 540 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 550 | | ug/l | 5.0 | 1.4 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-02
Client ID: CTRL D25 DUP
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:25
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 11/11/20 08:24
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Dissolved Gases by GC - Mansfield Lab** | | | | | | | |
| Methane | 44.3 | | ug/l | 2.00 | 2.00 | 1 | A |
| Ethene | 36.0 | | ug/l | 0.500 | 0.500 | 1 | A |
| Ethane | 1.80 | | ug/l | 0.500 | 0.500 | 1 | A |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2049310
**Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-02 D
Client ID: CTRL D25 DUP
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:25
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 11/11/20 05:39
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 590 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 100 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 280 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 3.0 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 6.8 | J | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 200 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 88 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 6.7 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 6.3 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2049310

**Project Number:** 20029 **Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-02 D Date Collected: 11/09/20 09:25

Client ID: CTRL D25 DUP Date Received: 11/09/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 21 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | ND | | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 620 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 630 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 5.9 | J | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | ND | | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2049310

**Project Number:** 20029 **Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-02 D Date Collected: 11/09/20 09:25

Client ID: CTRL D25 DUP Date Received: 11/09/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 89 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 7.3 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 101 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-03
Client ID: FLOW HI D25
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:30
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 11/11/20 08:42
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Dissolved Gases by GC - Mansfield Lab** | | | | | | | |
| Methane | 217 | | ug/l | 2.00 | 2.00 | 1 | A |
| Ethene | 125 | | ug/l | 0.500 | 0.500 | 1 | A |
| Ethane | 21.3 | | ug/l | 0.500 | 0.500 | 1 | A |

**Project Name:** FESL **Lab Number:** L2049310

**Project Number:** 20029 **Report Date:** 11/16/20

**SAMPLE RESULTS**

Lab ID: L2049310-03 D
Client ID: FLOW HI D25
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:30
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 11/11/20 06:05
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 520 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 14 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 4.7 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 12 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 26 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 88 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | ND | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2049310

**Project Number:** 20029 **Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-03 D Date Collected: 11/09/20 09:30

Client ID: FLOW HI D25 Date Received: 11/09/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 1.3 | J | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | 2.8 | J | ug/l | 10 | 2.8 | 4 |
| o-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 2.8 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 96 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 96 | | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 8.5 | J | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | ND | | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2049310

**Project Number:** 20029 **Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-03 D Date Collected: 11/09/20 09:30

Client ID: FLOW HI D25 Date Received: 11/09/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | ND | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 9.4 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 96 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-04
Client ID: TARGET HI D25
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:35
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 11/11/20 09:00
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Dissolved Gases by GC - Mansfield Lab** | | | | | | | |
| Methane | 249 | | ug/l | 2.00 | 2.00 | 1 | A |
| Ethene | 182 | | ug/l | 0.500 | 0.500 | 1 | A |
| Ethane | 54.4 | | ug/l | 0.500 | 0.500 | 1 | A |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2049310
**Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-04 D
Client ID: TARGET HI D25
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:35
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 11/11/20 06:32
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 450 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 1.8 | J | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 7.5 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 20 | | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 1.8 | J | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 110 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | ND | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2049310

**Project Number:** 20029 **Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-04 D
Client ID: TARGET HI D25
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:35
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | ND | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | 4.7 | J | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | 4.7 | J | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 11 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 11 | | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | 34 | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | 25 | | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2049310

**Project Number:** 20029 **Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-04 D Date Collected: 11/09/20 09:35

Client ID: TARGET HI D25 Date Received: 11/09/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | ND | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 10 | | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 91 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 81 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2049310
**Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-05
Client ID: EZVI HI D25
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:40
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 11/11/20 09:17
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Dissolved Gases by GC - Mansfield Lab** | | | | | | | |
| Methane | 206 | | ug/l | 2.00 | 2.00 | 1 | A |
| Ethene | 89.0 | | ug/l | 0.500 | 0.500 | 1 | A |
| Ethane | 19.1 | | ug/l | 0.500 | 0.500 | 1 | A |

**Project Name:** FESL **Lab Number:** L2049310

**Project Number:** 20029 **Report Date:** 11/16/20

**SAMPLE RESULTS**

Lab ID: L2049310-05 D
Client ID: EZVI HI D25
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:40
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 11/11/20 06:58
Analyst: NLK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 250 | 70. | 100 |
| 1,1-Dichloroethane | 530 | | ug/l | 250 | 70. | 100 |
| Chloroform | ND | | ug/l | 250 | 70. | 100 |
| Carbon tetrachloride | ND | | ug/l | 50 | 13. | 100 |
| 1,2-Dichloropropane | ND | | ug/l | 100 | 14. | 100 |
| Dibromochloromethane | ND | | ug/l | 50 | 15. | 100 |
| 1,1,2-Trichloroethane | ND | | ug/l | 150 | 50. | 100 |
| Tetrachloroethene | 190 | | ug/l | 50 | 18. | 100 |
| Chlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| Trichlorofluoromethane | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dichloroethane | ND | | ug/l | 50 | 13. | 100 |
| 1,1,1-Trichloroethane | ND | | ug/l | 250 | 70. | 100 |
| Bromodichloromethane | ND | | ug/l | 50 | 19. | 100 |
| trans-1,3-Dichloropropene | ND | | ug/l | 50 | 16. | 100 |
| cis-1,3-Dichloropropene | ND | | ug/l | 50 | 14. | 100 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 50 | 14. | 100 |
| 1,1-Dichloropropene | ND | | ug/l | 250 | 70. | 100 |
| Bromoform | ND | | ug/l | 200 | 65. | 100 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 50 | 17. | 100 |
| Benzene | ND | | ug/l | 50 | 16. | 100 |
| Toluene | ND | | ug/l | 250 | 70. | 100 |
| Ethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| Chloromethane | ND | | ug/l | 250 | 70. | 100 |
| Bromomethane | ND | | ug/l | 250 | 70. | 100 |
| Vinyl chloride | 130 | | ug/l | 100 | 7.1 | 100 |
| Chloroethane | 77 | J | ug/l | 250 | 70. | 100 |
| 1,1-Dichloroethene | ND | | ug/l | 50 | 17. | 100 |
| trans-1,2-Dichloroethene | ND | | ug/l | 250 | 70. | 100 |

**Project Name:** FESL **Lab Number:** L2049310

**Project Number:** 20029 **Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-05 D Date Collected: 11/09/20 09:40

Client ID: EZVI HI D25 Date Received: 11/09/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 25 | J | ug/l | 50 | 18. | 100 |
| 1,2-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,3-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,4-Dichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| Methyl tert butyl ether | ND | | ug/l | 250 | 70. | 100 |
| p/m-Xylene | ND | | ug/l | 250 | 70. | 100 |
| o-Xylene | ND | | ug/l | 250 | 70. | 100 |
| Xylenes, Total | ND | | ug/l | 250 | 70. | 100 |
| cis-1,2-Dichloroethene | 530 | | ug/l | 250 | 70. | 100 |
| 1,2-Dichloroethene, Total | 530 | | ug/l | 250 | 70. | 100 |
| Dibromomethane | ND | | ug/l | 500 | 100 | 100 |
| 1,2,3-Trichloropropane | ND | | ug/l | 250 | 70. | 100 |
| Acrylonitrile | ND | | ug/l | 500 | 150 | 100 |
| Styrene | ND | | ug/l | 250 | 70. | 100 |
| Dichlorodifluoromethane | ND | | ug/l | 500 | 100 | 100 |
| Acetone | ND | | ug/l | 500 | 150 | 100 |
| Carbon disulfide | ND | | ug/l | 500 | 100 | 100 |
| 2-Butanone | 410 | J | ug/l | 500 | 190 | 100 |
| Vinyl acetate | ND | | ug/l | 500 | 100 | 100 |
| 4-Methyl-2-pentanone | ND | | ug/l | 500 | 100 | 100 |
| 2-Hexanone | ND | | ug/l | 500 | 100 | 100 |
| Bromochloromethane | ND | | ug/l | 250 | 70. | 100 |
| 2,2-Dichloropropane | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dibromoethane | ND | | ug/l | 200 | 65. | 100 |
| 1,3-Dichloropropane | ND | | ug/l | 250 | 70. | 100 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 250 | 70. | 100 |
| Bromobenzene | ND | | ug/l | 250 | 70. | 100 |
| n-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| sec-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| tert-Butylbenzene | ND | | ug/l | 250 | 70. | 100 |
| o-Chlorotoluene | ND | | ug/l | 250 | 70. | 100 |
| p-Chlorotoluene | ND | | ug/l | 250 | 70. | 100 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 250 | 70. | 100 |
| Hexachlorobutadiene | ND | | ug/l | 250 | 70. | 100 |
| Isopropylbenzene | ND | | ug/l | 250 | 70. | 100 |
| p-Isopropyltoluene | ND | | ug/l | 250 | 70. | 100 |
| Naphthalene | ND | | ug/l | 250 | 70. | 100 |

**Project Name:** FESL **Lab Number:** L2049310

**Project Number:** 20029 **Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-05 D Date Collected: 11/09/20 09:40

Client ID: EZVI HI D25 Date Received: 11/09/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 250 | 70. | 100 |
| 1,4-Dioxane | ND | | ug/l | 25000 | 6100 | 100 |
| Freon-113 | ND | | ug/l | 250 | 70. | 100 |
| p-Diethylbenzene | ND | | ug/l | 200 | 70. | 100 |
| p-Ethyltoluene | ND | | ug/l | 200 | 70. | 100 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 200 | 54. | 100 |
| Ethyl ether | ND | | ug/l | 250 | 70. | 100 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 250 | 70. | 100 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 97 | | 70-130 |
| 4-Bromofluorobenzene | 104 | | 70-130 |
| Dibromofluoromethane | 96 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 117,-
Analytical Date: 11/11/20 07:10
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | |
|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab for sample(s): 01-05 Batch: WG1432910-3 | | | | | | |
| Methane | ND | | ug/l | 2.00 | 2.00 | A |
| Ethene | ND | | ug/l | 0.500 | 0.500 | A |
| Ethane | ND | | ug/l | 0.500 | 0.500 | A |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/10/20 22:09
Analyst: TMS

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-05 Batch: WG1433139-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/10/20 22:09
Analyst: TMS

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-05 Batch: WG1433139-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2049310
**Report Date:** 11/16/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/10/20 22:09
Analyst: TMS

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-05 Batch: WG1433139-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 91 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2049310
**Report Date:** 11/16/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/11/20 18:41
Analyst: TMS

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1433557-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/11/20 18:41
Analyst: TMS

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1433557-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2049310
**Report Date:** 11/16/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/11/20 18:41
Analyst: TMS

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1433557-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL

**Project Number:** 20029

**Lab Number:** L2049310

**Report Date:** 11/16/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|---|---|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01-05 Batch: WG1432910-2 | | | | | | | | | |
| Methane | 101 | | - | | 80-120 | - | | 25 | A |
| Ethene | 90 | | - | | 80-120 | - | | 25 | A |
| Ethane | 89 | | - | | 80-120 | - | | 25 | A |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-05 Batch: WG1433139-3 WG1433139-4 | | | | | | | | |
| Methylene chloride | 96 | | 93 | | 70-130 | 3 | | 20 |
| 1,1-Dichloroethane | 110 | | 100 | | 70-130 | 10 | | 20 |
| Chloroform | 100 | | 93 | | 70-130 | 7 | | 20 |
| Carbon tetrachloride | 100 | | 100 | | 63-132 | 0 | | 20 |
| 1,2-Dichloropropane | 100 | | 110 | | 70-130 | 10 | | 20 |
| Dibromochloromethane | 99 | | 110 | | 63-130 | 11 | | 20 |
| 1,1,2-Trichloroethane | 98 | | 110 | | 70-130 | 12 | | 20 |
| Tetrachloroethene | 110 | | 110 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 100 | | 110 | | 75-130 | 10 | | 20 |
| Trichlorofluoromethane | 100 | | 100 | | 62-150 | 0 | | 20 |
| 1,2-Dichloroethane | 110 | | 100 | | 70-130 | 10 | | 20 |
| 1,1,1-Trichloroethane | 100 | | 100 | | 67-130 | 0 | | 20 |
| Bromodichloromethane | 97 | | 100 | | 67-130 | 3 | | 20 |
| trans-1,3-Dichloropropene | 100 | | 110 | | 70-130 | 10 | | 20 |
| cis-1,3-Dichloropropene | 98 | | 99 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Bromoform | 100 | | 120 | | 54-136 | 18 | | 20 |
| 1,1,2,2-Tetrachloroethane | 100 | | 110 | | 67-130 | 10 | | 20 |
| Benzene | 100 | | 97 | | 70-130 | 3 | | 20 |
| Toluene | 110 | | 110 | | 70-130 | 0 | | 20 |
| Ethylbenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Chloromethane | 82 | | 83 | | 64-130 | 1 | | 20 |
| Bromomethane | **14** | Q | **15** | Q | 39-139 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-05 Batch: WG1433139-3 WG1433139-4 | | | | | | | | |
| Vinyl chloride | 89 | | 90 | | 55-140 | 1 | | 20 |
| Chloroethane | 100 | | 99 | | 55-138 | 1 | | 20 |
| 1,1-Dichloroethene | 100 | | 97 | | 61-145 | 3 | | 20 |
| trans-1,2-Dichloroethene | 100 | | 95 | | 70-130 | 5 | | 20 |
| Trichloroethene | 100 | | 97 | | 70-130 | 3 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,3-Dichlorobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Methyl tert butyl ether | 110 | | 110 | | 63-130 | 0 | | 20 |
| p/m-Xylene | 100 | | 110 | | 70-130 | 10 | | 20 |
| o-Xylene | 100 | | 105 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 100 | | 99 | | 70-130 | 1 | | 20 |
| Dibromomethane | 95 | | 100 | | 70-130 | 5 | | 20 |
| 1,2,3-Trichloropropane | 98 | | 110 | | 64-130 | 12 | | 20 |
| Acrylonitrile | 120 | | 120 | | 70-130 | 0 | | 20 |
| Styrene | 95 | | 105 | | 70-130 | 10 | | 20 |
| Dichlorodifluoromethane | 64 | | 64 | | 36-147 | 0 | | 20 |
| Acetone | 110 | | 120 | | 58-148 | 9 | | 20 |
| Carbon disulfide | 95 | | 92 | | 51-130 | 3 | | 20 |
| 2-Butanone | 110 | | 100 | | 63-138 | 10 | | 20 |
| Vinyl acetate | 100 | | 88 | | 70-130 | 13 | | 20 |
| 4-Methyl-2-pentanone | 98 | | 120 | | 59-130 | 20 | | 20 |
| 2-Hexanone | 97 | | 120 | | 57-130 | **21** | Q | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-05 Batch: WG1433139-3 WG1433139-4 | | | | | | | | |
| Bromochloromethane | 110 | | 110 | | 70-130 | 0 | | 20 |
| 2,2-Dichloropropane | 110 | | 110 | | 63-133 | 0 | | 20 |
| 1,2-Dibromoethane | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,3-Dichloropropane | 110 | | 110 | | 70-130 | 0 | | 20 |
| 1,1,1,2-Tetrachloroethane | 98 | | 110 | | 64-130 | 12 | | 20 |
| Bromobenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| n-Butylbenzene | 100 | | 100 | | 53-136 | 0 | | 20 |
| sec-Butylbenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| tert-Butylbenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| o-Chlorotoluene | 110 | | 110 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,2-Dibromo-3-chloropropane | 95 | | 100 | | 41-144 | 5 | | 20 |
| Hexachlorobutadiene | 94 | | 94 | | 63-130 | 0 | | 20 |
| Isopropylbenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Naphthalene | 100 | | 100 | | 70-130 | 0 | | 20 |
| n-Propylbenzene | 110 | | 110 | | 69-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,2,4-Trichlorobenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,3,5-Trimethylbenzene | 100 | | 110 | | 64-130 | 10 | | 20 |
| 1,2,4-Trimethylbenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | **32** | Q | **44** | Q | 56-162 | **32** | Q | 20 |
| Freon-113 | 110 | | 100 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-05 Batch: WG1433139-3 WG1433139-4 | | | | | | | | |
| p-Diethylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| p-Ethyltoluene | 110 | | 110 | | 70-130 | 0 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 99 | | 99 | | 70-130 | 0 | | 20 |
| Ethyl ether | 99 | | 100 | | 59-134 | 1 | | 20 |
| trans-1,4-Dichloro-2-butene | **65** | Q | **69** | Q | 70-130 | 6 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 99 | | 70-130 |
| Toluene-d8 | 98 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 103 | | 102 | | 70-130 |
| Dibromofluoromethane | 96 | | 93 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

| 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: WG1433557-3 WG1433557-4 | | | | | | | | |
| Methylene chloride | 93 | | 100 | | 70-130 | 7 | | 20 |
| 1,1-Dichloroethane | 97 | | 100 | | 70-130 | 3 | | 20 |
| Chloroform | 90 | | 99 | | 70-130 | 10 | | 20 |
| Carbon tetrachloride | 86 | | 96 | | 63-132 | 11 | | 20 |
| 1,2-Dichloropropane | 88 | | 98 | | 70-130 | 11 | | 20 |
| Dibromochloromethane | 82 | | 93 | | 63-130 | 13 | | 20 |
| 1,1,2-Trichloroethane | 94 | | 100 | | 70-130 | 6 | | 20 |
| Tetrachloroethene | 94 | | 100 | | 70-130 | 6 | | 20 |
| Chlorobenzene | 95 | | 100 | | 75-130 | 5 | | 20 |
| Trichlorofluoromethane | 93 | | 100 | | 62-150 | 7 | | 20 |
| 1,2-Dichloroethane | 90 | | 97 | | 70-130 | 7 | | 20 |
| 1,1,1-Trichloroethane | 90 | | 98 | | 67-130 | 9 | | 20 |
| Bromodichloromethane | 84 | | 94 | | 67-130 | 11 | | 20 |
| trans-1,3-Dichloropropene | 84 | | 92 | | 70-130 | 9 | | 20 |
| cis-1,3-Dichloropropene | 80 | | 92 | | 70-130 | 14 | | 20 |
| 1,1-Dichloropropene | 94 | | 100 | | 70-130 | 6 | | 20 |
| Bromoform | 78 | | 90 | | 54-136 | 14 | | 20 |
| 1,1,2,2-Tetrachloroethane | 91 | | 100 | | 67-130 | 9 | | 20 |
| Benzene | 92 | | 100 | | 70-130 | 8 | | 20 |
| Toluene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Ethylbenzene | 99 | | 110 | | 70-130 | 11 | | 20 |
| Chloromethane | 88 | | 91 | | 64-130 | 3 | | 20 |
| Bromomethane | 83 | | 93 | | 39-139 | 11 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

| 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: WG1433557-3 WG1433557-4 | | | | | | | | |
| Vinyl chloride | 87 | | 94 | | 55-140 | 8 | | 20 |
| Chloroethane | 97 | | 110 | | 55-138 | 13 | | 20 |
| 1,1-Dichloroethene | 93 | | 100 | | 61-145 | 7 | | 20 |
| trans-1,2-Dichloroethene | 91 | | 100 | | 70-130 | 9 | | 20 |
| Trichloroethene | 90 | | 100 | | 70-130 | 11 | | 20 |
| 1,2-Dichlorobenzene | 94 | | 100 | | 70-130 | 6 | | 20 |
| 1,3-Dichlorobenzene | 97 | | 110 | | 70-130 | 13 | | 20 |
| 1,4-Dichlorobenzene | 94 | | 100 | | 70-130 | 6 | | 20 |
| Methyl tert butyl ether | 83 | | 96 | | 63-130 | 15 | | 20 |
| p/m-Xylene | 100 | | 110 | | 70-130 | 10 | | 20 |
| o-Xylene | 100 | | 110 | | 70-130 | 10 | | 20 |
| cis-1,2-Dichloroethene | 91 | | 100 | | 70-130 | 9 | | 20 |
| Dibromomethane | 83 | | 94 | | 70-130 | 12 | | 20 |
| 1,2,3-Trichloropropane | 95 | | 100 | | 64-130 | 5 | | 20 |
| Acrylonitrile | 86 | | 92 | | 70-130 | 7 | | 20 |
| Styrene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Dichlorodifluoromethane | 76 | | 81 | | 36-147 | 6 | | 20 |
| Acetone | 75 | | 86 | | 58-148 | 14 | | 20 |
| Carbon disulfide | 92 | | 99 | | 51-130 | 7 | | 20 |
| 2-Butanone | 89 | | 93 | | 63-138 | 4 | | 20 |
| Vinyl acetate | 78 | | 86 | | 70-130 | 10 | | 20 |
| 4-Methyl-2-pentanone | 83 | | 92 | | 59-130 | 10 | | 20 |
| 2-Hexanone | 70 | | 86 | | 57-130 | **21** | Q | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

| 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: WG1433557-3 WG1433557-4 | | | | | | | | |
| Bromochloromethane | 85 | | 95 | | 70-130 | 11 | | 20 |
| 2,2-Dichloropropane | 96 | | 100 | | 63-133 | 4 | | 20 |
| 1,2-Dibromoethane | 87 | | 93 | | 70-130 | 7 | | 20 |
| 1,3-Dichloropropane | 93 | | 99 | | 70-130 | 6 | | 20 |
| 1,1,1,2-Tetrachloroethane | 85 | | 96 | | 64-130 | 12 | | 20 |
| Bromobenzene | 93 | | 100 | | 70-130 | 7 | | 20 |
| n-Butylbenzene | 110 | | 110 | | 53-136 | 0 | | 20 |
| sec-Butylbenzene | 110 | | 120 | | 70-130 | 9 | | 20 |
| tert-Butylbenzene | 90 | | 98 | | 70-130 | 9 | | 20 |
| o-Chlorotoluene | 100 | | 120 | | 70-130 | 18 | | 20 |
| p-Chlorotoluene | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,2-Dibromo-3-chloropropane | 61 | | 73 | | 41-144 | 18 | | 20 |
| Hexachlorobutadiene | 96 | | 100 | | 63-130 | 4 | | 20 |
| Isopropylbenzene | 100 | | 120 | | 70-130 | 18 | | 20 |
| p-Isopropyltoluene | 100 | | 120 | | 70-130 | 18 | | 20 |
| Naphthalene | **62** | Q | **69** | Q | 70-130 | 11 | | 20 |
| n-Propylbenzene | 110 | | 120 | | 69-130 | 9 | | 20 |
| 1,2,3-Trichlorobenzene | **69** | Q | 78 | | 70-130 | 12 | | 20 |
| 1,2,4-Trichlorobenzene | 78 | | 86 | | 70-130 | 10 | | 20 |
| 1,3,5-Trimethylbenzene | 110 | | 120 | | 64-130 | 9 | | 20 |
| 1,2,4-Trimethylbenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,4-Dioxane | 70 | | 72 | | 56-162 | 3 | | 20 |
| Freon-113 | 99 | | 110 | | 70-130 | 11 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

| 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: WG1433557-3 WG1433557-4 | | | | | | | | |
| p-Diethylbenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| p-Ethyltoluene | 100 | | 120 | | 70-130 | 18 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 92 | | 100 | | 70-130 | 8 | | 20 |
| Ethyl ether | 91 | | 96 | | 59-134 | 5 | | 20 |
| trans-1,4-Dichloro-2-butene | 85 | | 97 | | 70-130 | 13 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 101 | | 70-130 |
| Toluene-d8 | 102 | | 101 | | 70-130 |
| 4-Bromofluorobenzene | 107 | | 105 | | 70-130 |
| Dibromofluoromethane | 95 | | 96 | | 70-130 |

# Lab Duplicate Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits | |
|---|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1432910-4 QC Sample: L2049310-03 Client ID: FLOW HI D25 | | | | | | | |
| Methane | 217 | 245 | ug/l | 12 | | 25 | A |
| Ethene | 125 | 138 | ug/l | 10 | | 25 | A |
| Ethane | 21.3 | 25.0 | ug/l | 16 | | 25 | A |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-01
Client ID: CTRL D25
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:20
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Alkalinity, Total | 1260 | | mg CaCO3/L | 5.00 | NA | 2.5 | - | 11/12/20 02:28 | 121,2320B | JA |
| Sulfate | 84. | | mg/l | 50 | 6.8 | 5 | 11/16/20 10:54 | 11/16/20 10:54 | 1,9038 | JB |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-02
Client ID: CTRL D25 DUP
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:25
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Alkalinity, Total | 1300 | | mg CaCO3/L | 5.00 | NA | 2.5 | - | 11/12/20 02:28 | 121,2320B | JA |
| Sulfate | 82. | | mg/l | 50 | 6.8 | 5 | 11/16/20 10:54 | 11/16/20 10:54 | 1,9038 | JB |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-03
Client ID: FLOW HI D25
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:30
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Alkalinity, Total | 541. | | mg CaCO3/L | 2.00 | NA | 1 | - | 11/12/20 02:28 | 121,2320B | JA |
| Sulfate | 47. | | mg/l | 20 | 2.7 | 2 | 11/16/20 10:54 | 11/16/20 10:54 | 1,9038 | JB |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-04
Client ID: TARGET HI D25
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:35
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Alkalinity, Total | 542. | | mg CaCO3/L | 2.00 | NA | 1 | - | 11/12/20 02:28 | 121,2320B | JA |
| Sulfate | 41. | | mg/l | 20 | 2.7 | 2 | 11/16/20 10:54 | 11/16/20 10:54 | 1,9038 | JB |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

## SAMPLE RESULTS

Lab ID: L2049310-05
Client ID: EZVI HI D25
Sample Location: ROCHESTER, NY

Date Collected: 11/09/20 09:40
Date Received: 11/09/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Alkalinity, Total | 1170 | | mg CaCO3/L | 4.00 | NA | 2 | - | 11/12/20 02:28 | 121,2320B | JA |
| Sulfate | ND | | mg/l | 500 | 68. | 50 | 11/16/20 10:54 | 11/16/20 10:54 | 1,9038 | JB |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

# Method Blank Analysis
## Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1432843-1 | | | | | | | | | | |
| Alkalinity, Total | ND | | mg CaCO3/L | 2.00 | NA | 1 | - | 11/12/20 02:28 | 121,2320B | JA |
| General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1434736-1 | | | | | | | | | | |
| Sulfate | 2.0 | J | mg/l | 10 | 1.4 | 1 | 11/16/20 10:54 | 11/16/20 10:54 | 1,9038 | JB |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL

**Project Number:** 20029

**Lab Number:** L2049310

**Report Date:** 11/16/20

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1432843-2 | | | | | | | | |
| Alkalinity, Total | 103 | | - | | 90-110 | - | | 10 |
| General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1434736-2 | | | | | | | | |
| Sulfate | 95 | | - | | 90-110 | - | | |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1432843-4 QC Sample: L2049011-03 Client ID: MS Sample | | | | | | | | | | | | |
| Alkalinity, Total | 264. | 100 | 292 | **28** | Q | - | - | | 86-116 | - | | 10 |
| General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1434736-4 QC Sample: L2049367-01 Client ID: MS Sample | | | | | | | | | | | | |
| Sulfate | 5.8J | 20 | 26 | 130 | | - | - | | 55-147 | - | | 14 |

# Lab Duplicate Analysis

***Batch Quality Control***

**Project Name:** FESL
**Project Number:** 20029

***Lab Number:*** L2049310
***Report Date:*** 11/16/20

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1432843-3 QC Sample: L2049011-03 Client ID: DUP Sample | | | | | | |
| Alkalinity, Total | 264. | 264 | mg CaCO3/L | 0 | | 10 |
| General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1434736-3 QC Sample: L2049367-01 Client ID: DUP Sample | | | | | | |
| Sulfate | 5.8J | 5.2J | mg/l | NC | | 14 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

## 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(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2049310-01A | Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | NYTCL-8260(14) |
| L2049310-01B | Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | NYTCL-8260(14) |
| L2049310-01C | 20ml Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | DISSGAS(14) |
| L2049310-01D | 20ml Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | DISSGAS(14) |
| L2049310-01E | Plastic 120ml unpreserved | A | 7 | 7 | 6.5 | Y | Absent | | SO4-9038(28) |
| L2049310-01F | Plastic 250ml unpreserved/No Headspace | A | NA | | 6.5 | Y | Absent | | ALK-T-2320(14) |
| L2049310-01G | Plastic 250ml unpreserved/No Headspace | A | NA | | 6.5 | Y | Absent | | - |
| L2049310-02A | Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | NYTCL-8260(14) |
| L2049310-02B | Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | NYTCL-8260(14) |
| L2049310-02C | 20ml Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | DISSGAS(14) |
| L2049310-02D | 20ml Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | DISSGAS(14) |
| L2049310-02E | Plastic 120ml unpreserved | A | 9 | 9 | 6.5 | Y | Absent | | SO4-9038(28) |
| L2049310-02F | Plastic 250ml unpreserved/No Headspace | A | NA | | 6.5 | Y | Absent | | ALK-T-2320(14) |
| L2049310-02G | Plastic 250ml unpreserved/No Headspace | A | NA | | 6.5 | Y | Absent | | - |
| L2049310-03A | Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | NYTCL-8260(14) |
| L2049310-03B | Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | NYTCL-8260(14) |
| L2049310-03C | 20ml Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | DISSGAS(14) |
| L2049310-03D | 20ml Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | DISSGAS(14) |
| L2049310-03E | Plastic 120ml unpreserved | A | 7 | 7 | 6.5 | Y | Absent | | SO4-9038(28) |
| L2049310-03F | Plastic 250ml unpreserved/No Headspace | A | NA | | 6.5 | Y | Absent | | ALK-T-2320(14) |
| L2049310-03G | Plastic 250ml unpreserved/No Headspace | A | NA | | 6.5 | Y | Absent | | - |
| L2049310-04A | Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | NYTCL-8260(14) |
| L2049310-04B | Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | NYTCL-8260(14) |



*Values in parentheses indicate holding time in days

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2049310
**Report Date:** 11/16/20

## Container Information

| Container ID | Container Type | Cooler | Initial pH | Final pH | Temp deg C | Pres | Seal | Frozen Date/Time | Analysis(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2049310-04C | 20ml Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | DISSGAS(14) |
| L2049310-04D | 20ml Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | DISSGAS(14) |
| L2049310-04E | Plastic 120ml unpreserved | A | 10 | 10 | 6.5 | Y | Absent | | SO4-9038(28) |
| L2049310-04F | Plastic 250ml unpreserved/No Headspace | A | NA | | 6.5 | Y | Absent | | ALK-T-2320(14) |
| L2049310-04G | Plastic 250ml unpreserved/No Headspace | A | NA | | 6.5 | Y | Absent | | - |
| L2049310-05A | Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | NYTCL-8260(14) |
| L2049310-05B | Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | NYTCL-8260(14) |
| L2049310-05C | 20ml Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | DISSGAS(14) |
| L2049310-05D | 20ml Vial HCl preserved | A | NA | | 6.5 | Y | Absent | | DISSGAS(14) |
| L2049310-05E | Plastic 120ml unpreserved | A | 7 | 7 | 6.5 | Y | Absent | | SO4-9038(28) |
| L2049310-05F | Plastic 250ml unpreserved/No Headspace | A | NA | | 6.5 | Y | Absent | | ALK-T-2320(14) |
| L2049310-05G | Plastic 250ml unpreserved/No Headspace | A | NA | | 6.5 | Y | Absent | | - |



*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2049310 |
| **Project Number:** | 20029 | **Report Date:** | 11/16/20 |

## GLOSSARY

***Acronyms***

| | |
|---|---|
| DL | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| EDL | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME). |
| EMPC | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration. |
| EPA | - Environmental Protection Agency. |
| LCS | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LCSD | - Laboratory Control Sample Duplicate: Refer to LCS. |
| LFB | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes. |
| LOD | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| LOQ | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>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. |
| NR | - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests. |
| 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. |

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2049310 |
| **Project Number:** | 20029 | **Report Date:** | 11/16/20 |

***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.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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.

**F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

**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

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2049310 |
| **Project Number:** | 20029 | **Report Date:** | 11/16/20 |

***Data Qualifiers***

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:** | FESL | **Lab Number:** | L2049310 |
| **Project Number:** | 20029 | **Report Date:** | 11/16/20 |

## REFERENCES


1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

117 Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, EPA-NE, Revision 1, February 21, 2002 and Sample Preparation & Calculations for Dissolved Gas Analysis in Water Samples using a GC Headspace Equilibration Technique, EPA RSKSOP-175, Revision 2, May 2004.

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


## LIMITATION OF LIABILITIES

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

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

# Certification Information

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

**Westborough Facility**
**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene
**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.
**EPA TO-12** Non-methane organics
**EPA 3C** Fixed gases
**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 JERSEY CHAIN OF CUSTODY

ALPHA

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** 11/9/20

**ALPHA Job #** L2049310

## Client Information

Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

These samples have been previously analyzed by Alpha ☐

## Project Information

Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12786

## Turn-Around Time

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

## Deliverables

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

## Regulatory Requirement

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

## Billing Information

☑ Same as Client Info
PO # 4697

## Site Information

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

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com

please include Freon-113
3-day TAT for VOCs, standard TAT for all other analytes

## ANALYSIS

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs | Dissolved Gases | Alkalinity | Sulfate | | | | | Total # Bottles |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49310-01 | Ctrl D25 | 11/9/2020 | 9:20 | GW | LC | x | x | x | x | | | | | 4 |
| 02 | Ctrl D25 dup | 11/9/2020 | 9:25 | GW | LC | x | x | x | x | | | | | 7 |
| 03 | Flow Hi D25 | 11/9/2020 | 9:30 | GW | LC | x | x | x | x | | | | | |
| 04 | Target Hi D25 | 11/9/2020 | 9:35 | GW | LC | x | x | x | x | | | | | |
| 05 | eZVI Hi D25 | 11/9/2020 | 9:40 | GW | LC | x | x | x | x | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

**Container Type** G G P P
**Preservative** B B A A

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

**Sample Specific Comments**

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

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

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

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| [signature] | 11/9/2020 1:20 PM | [signature] ALPHA | 11/9/20 1346 |
| [signature] ALPHA | 11/9/20 1920 | [signature] | 11/9/20 1920 |

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.

Form No: 01-14 (rev. 30-Sept-2013)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L2053373 |
| Client: | XDD Environmental<br>Mary Scudieri<br>22 Marin Way Unit 3<br>Stratham, NH 03885 |
| ATTN: | Laurel Crawford |
| Phone: | (603) 778-1100 |
| Project Name: | FESL |
| Project Number: | 20029 |
| Report Date: | 12/04/20 |



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:** FESL
**Project Number:** 20029

**Lab Number:** L2053373
**Report Date:** 12/04/20

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|---|---|---|---|---|---|
| L2053373-01 | SBW-07 BASELINE | WATER | ROCHESTER, NY | 12/02/20 09:00 | 12/02/20 |
| L2053373-02 | SBW-07 BASELINE DUPE | WATER | ROCHESTER, NY | 12/02/20 09:05 | 12/02/20 |

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2053373 |
| **Project Number:** | 20029 | **Report Date:** | 12/04/20 |

## 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:** FESL
**Project Number:** 20029

**Lab Number:** L2053373
**Report Date:** 12/04/20

**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: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 12/04/20

# ORGANICS

# VOLATILES

**Project Name:** FESL **Lab Number:** L2053373

**Project Number:** 20029 **Report Date:** 12/04/20

**SAMPLE RESULTS**

Lab ID: L2053373-01 D
Client ID: SBW-07 BASELINE
Sample Location: ROCHESTER, NY

Date Collected: 12/02/20 09:00
Date Received: 12/02/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/03/20 11:08
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethane | 450 | | ug/l | 6.2 | 1.8 | 2.5 |
| Chloroform | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Carbon tetrachloride | ND | | ug/l | 1.2 | 0.34 | 2.5 |
| 1,2-Dichloropropane | ND | | ug/l | 2.5 | 0.34 | 2.5 |
| Dibromochloromethane | ND | | ug/l | 1.2 | 0.37 | 2.5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 3.8 | 1.2 | 2.5 |
| Tetrachloroethene | 420 | | ug/l | 1.2 | 0.45 | 2.5 |
| Chlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Trichlorofluoromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethane | ND | | ug/l | 1.2 | 0.33 | 2.5 |
| 1,1,1-Trichloroethane | 220 | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromodichloromethane | ND | | ug/l | 1.2 | 0.48 | 2.5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.41 | 2.5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,1-Dichloropropene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromoform | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.2 | 0.42 | 2.5 |
| Benzene | 3.6 | | ug/l | 1.2 | 0.40 | 2.5 |
| Toluene | 3.2 | J | ug/l | 6.2 | 1.8 | 2.5 |
| Ethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Chloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromomethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Vinyl chloride | 250 | | ug/l | 2.5 | 0.18 | 2.5 |
| Chloroethane | 19 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethene | 7.8 | | ug/l | 1.2 | 0.42 | 2.5 |
| trans-1,2-Dichloroethene | 5.4 | J | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2053373

**Project Number:** 20029 **Report Date:** 12/04/20

## SAMPLE RESULTS

Lab ID: L2053373-01 D
Client ID: SBW-07 BASELINE
Sample Location: ROCHESTER, NY

Date Collected: 12/02/20 09:00
Date Received: 12/02/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 24 | | ug/l | 1.2 | 0.44 | 2.5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Methyl tert butyl ether | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p/m-Xylene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| o-Xylene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Xylenes, Total | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| cis-1,2-Dichloroethene | 460 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethene, Total | 470 | J | ug/l | 6.2 | 1.8 | 2.5 |
| Dibromomethane | ND | | ug/l | 12 | 2.5 | 2.5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Acrylonitrile | ND | | ug/l | 12 | 3.8 | 2.5 |
| Styrene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Dichlorodifluoromethane | ND | | ug/l | 12 | 2.5 | 2.5 |
| Acetone | ND | | ug/l | 12 | 3.6 | 2.5 |
| Carbon disulfide | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Butanone | ND | | ug/l | 12 | 4.8 | 2.5 |
| Vinyl acetate | ND | | ug/l | 12 | 2.5 | 2.5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Hexanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| Bromochloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 2,2-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromoethane | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,3-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| n-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| sec-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| tert-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| o-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Hexachlorobutadiene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Isopropylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Isopropyltoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Naphthalene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2053373

**Project Number:** 20029 **Report Date:** 12/04/20

## SAMPLE RESULTS

Lab ID: L2053373-01 D Date Collected: 12/02/20 09:00

Client ID: SBW-07 BASELINE Date Received: 12/02/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dioxane | 180 | J | ug/l | 620 | 150 | 2.5 |
| Freon-113 | 170 | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Diethylbenzene | ND | | ug/l | 5.0 | 1.8 | 2.5 |
| p-Ethyltoluene | ND | | ug/l | 5.0 | 1.8 | 2.5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 5.0 | 1.4 | 2.5 |
| Ethyl ether | 8.0 | | ug/l | 6.2 | 1.8 | 2.5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 100 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 98 | | 70-130 |
| Dibromofluoromethane | 99 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2053373

**Project Number:** 20029 **Report Date:** 12/04/20

## SAMPLE RESULTS

Lab ID: L2053373-02 D
Client ID: SBW-07 BASELINE DUPE
Sample Location: ROCHESTER, NY

Date Collected: 12/02/20 09:05
Date Received: 12/02/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/03/20 11:33
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethane | 610 | | ug/l | 10 | 2.8 | 4 |
| Chloroform | ND | | ug/l | 10 | 2.8 | 4 |
| Carbon tetrachloride | ND | | ug/l | 2.0 | 0.54 | 4 |
| 1,2-Dichloropropane | ND | | ug/l | 4.0 | 0.55 | 4 |
| Dibromochloromethane | ND | | ug/l | 2.0 | 0.60 | 4 |
| 1,1,2-Trichloroethane | ND | | ug/l | 6.0 | 2.0 | 4 |
| Tetrachloroethene | 76 | | ug/l | 2.0 | 0.72 | 4 |
| Chlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Trichlorofluoromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethane | ND | | ug/l | 2.0 | 0.53 | 4 |
| 1,1,1-Trichloroethane | 310 | | ug/l | 10 | 2.8 | 4 |
| Bromodichloromethane | ND | | ug/l | 2.0 | 0.77 | 4 |
| trans-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.66 | 4 |
| cis-1,3-Dichloropropene | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 2.0 | 0.58 | 4 |
| 1,1-Dichloropropene | ND | | ug/l | 10 | 2.8 | 4 |
| Bromoform | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 2.0 | 0.67 | 4 |
| Benzene | 3.9 | | ug/l | 2.0 | 0.64 | 4 |
| Toluene | 3.3 | J | ug/l | 10 | 2.8 | 4 |
| Ethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Chloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromomethane | ND | | ug/l | 10 | 2.8 | 4 |
| Vinyl chloride | 380 | | ug/l | 4.0 | 0.28 | 4 |
| Chloroethane | 23 | | ug/l | 10 | 2.8 | 4 |
| 1,1-Dichloroethene | 10 | | ug/l | 2.0 | 0.68 | 4 |
| trans-1,2-Dichloroethene | 7.2 | J | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2053373

**Project Number:** 20029 **Report Date:** 12/04/20

## SAMPLE RESULTS

Lab ID: L2053373-02 D
Client ID: SBW-07 BASELINE DUPE
Sample Location: ROCHESTER, NY

Date Collected: 12/02/20 09:05
Date Received: 12/02/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 17 | | ug/l | 2.0 | 0.70 | 4 |
| 1,2-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| Methyl tert butyl ether | ND | | ug/l | 10 | 2.8 | 4 |
| p/m-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Xylene | ND | | ug/l | 10 | 2.8 | 4 |
| Xylenes, Total | ND | | ug/l | 10 | 2.8 | 4 |
| cis-1,2-Dichloroethene | 630 | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dichloroethene, Total | 640 | J | ug/l | 10 | 2.8 | 4 |
| Dibromomethane | ND | | ug/l | 20 | 4.0 | 4 |
| 1,2,3-Trichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Acrylonitrile | ND | | ug/l | 20 | 6.0 | 4 |
| Styrene | ND | | ug/l | 10 | 2.8 | 4 |
| Dichlorodifluoromethane | ND | | ug/l | 20 | 4.0 | 4 |
| Acetone | ND | | ug/l | 20 | 5.8 | 4 |
| Carbon disulfide | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Butanone | ND | | ug/l | 20 | 7.8 | 4 |
| Vinyl acetate | ND | | ug/l | 20 | 4.0 | 4 |
| 4-Methyl-2-pentanone | ND | | ug/l | 20 | 4.0 | 4 |
| 2-Hexanone | ND | | ug/l | 20 | 4.0 | 4 |
| Bromochloromethane | ND | | ug/l | 10 | 2.8 | 4 |
| 2,2-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromoethane | ND | | ug/l | 8.0 | 2.6 | 4 |
| 1,3-Dichloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 10 | 2.8 | 4 |
| Bromobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| n-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| sec-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| tert-Butylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| o-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Chlorotoluene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 10 | 2.8 | 4 |
| Hexachlorobutadiene | ND | | ug/l | 10 | 2.8 | 4 |
| Isopropylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| p-Isopropyltoluene | ND | | ug/l | 10 | 2.8 | 4 |
| Naphthalene | ND | | ug/l | 10 | 2.8 | 4 |

**Project Name:** FESL **Lab Number:** L2053373

**Project Number:** 20029 **Report Date:** 12/04/20

## SAMPLE RESULTS

Lab ID: L2053373-02 D
Client ID: SBW-07 BASELINE DUPE
Sample Location: ROCHESTER, NY

Date Collected: 12/02/20 09:05
Date Received: 12/02/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 10 | 2.8 | 4 |
| 1,4-Dioxane | ND | | ug/l | 1000 | 240 | 4 |
| Freon-113 | 370 | | ug/l | 10 | 2.8 | 4 |
| p-Diethylbenzene | ND | | ug/l | 8.0 | 2.8 | 4 |
| p-Ethyltoluene | ND | | ug/l | 8.0 | 2.8 | 4 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 8.0 | 2.2 | 4 |
| Ethyl ether | 9.2 | J | ug/l | 10 | 2.8 | 4 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 10 | 2.8 | 4 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 103 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 102 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2053373
**Report Date:** 12/04/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/03/20 09:30
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1440941-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2053373
**Report Date:** 12/04/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/03/20 09:30
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1440941-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2053373
**Report Date:** 12/04/20

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/03/20 09:30
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1440941-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

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

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2053373
**Report Date:** 12/04/20

| 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: WG1440941-3 WG1440941-4 | | | | | | | | |
| Methylene chloride | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1-Dichloroethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| Chloroform | 100 | | 100 | | 70-130 | 0 | | 20 |
| Carbon tetrachloride | 110 | | 110 | | 63-132 | 0 | | 20 |
| 1,2-Dichloropropane | 97 | | 99 | | 70-130 | 2 | | 20 |
| Dibromochloromethane | 100 | | 100 | | 63-130 | 0 | | 20 |
| 1,1,2-Trichloroethane | 95 | | 98 | | 70-130 | 3 | | 20 |
| Tetrachloroethene | 110 | | 100 | | 70-130 | 10 | | 20 |
| Chlorobenzene | 100 | | 100 | | 75-130 | 0 | | 20 |
| Trichlorofluoromethane | 110 | | 110 | | 62-150 | 0 | | 20 |
| 1,2-Dichloroethane | 99 | | 98 | | 70-130 | 1 | | 20 |
| 1,1,1-Trichloroethane | 100 | | 110 | | 67-130 | 10 | | 20 |
| Bromodichloromethane | 96 | | 99 | | 67-130 | 3 | | 20 |
| trans-1,3-Dichloropropene | 100 | | 98 | | 70-130 | 2 | | 20 |
| cis-1,3-Dichloropropene | 95 | | 97 | | 70-130 | 2 | | 20 |
| 1,1-Dichloropropene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Bromoform | 110 | | 110 | | 54-136 | 0 | | 20 |
| 1,1,2,2-Tetrachloroethane | 96 | | 100 | | 67-130 | 4 | | 20 |
| Benzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Toluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Ethylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Chloromethane | 110 | | 100 | | 64-130 | 10 | | 20 |
| Bromomethane | 110 | | 98 | | 39-139 | 12 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2053373
**Report Date:** 12/04/20

| 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: WG1440941-3 WG1440941-4 | | | | | | | | |
| Vinyl chloride | 100 | | 97 | | 55-140 | 3 | | 20 |
| Chloroethane | 110 | | 100 | | 55-138 | 10 | | 20 |
| 1,1-Dichloroethene | 110 | | 110 | | 61-145 | 0 | | 20 |
| trans-1,2-Dichloroethene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Trichloroethene | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,4-Dichlorobenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Methyl tert butyl ether | 98 | | 96 | | 63-130 | 2 | | 20 |
| p/m-Xylene | 100 | | 100 | | 70-130 | 0 | | 20 |
| o-Xylene | 100 | | 100 | | 70-130 | 0 | | 20 |
| cis-1,2-Dichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Dibromomethane | 96 | | 98 | | 70-130 | 2 | | 20 |
| 1,2,3-Trichloropropane | 94 | | 100 | | 64-130 | 6 | | 20 |
| Acrylonitrile | 99 | | 100 | | 70-130 | 1 | | 20 |
| Styrene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 100 | | 98 | | 36-147 | 2 | | 20 |
| Acetone | 91 | | 100 | | 58-148 | 9 | | 20 |
| Carbon disulfide | 110 | | 110 | | 51-130 | 0 | | 20 |
| 2-Butanone | 94 | | 94 | | 63-138 | 0 | | 20 |
| Vinyl acetate | 100 | | 87 | | 70-130 | 14 | | 20 |
| 4-Methyl-2-pentanone | 95 | | 100 | | 59-130 | 5 | | 20 |
| 2-Hexanone | 110 | | 94 | | 57-130 | 16 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2053373
**Report Date:** 12/04/20

| 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: WG1440941-3 WG1440941-4 | | | | | | | | |
| Bromochloromethane | 110 | | 110 | | 70-130 | 0 | | 20 |
| 2,2-Dichloropropane | 120 | | 100 | | 63-133 | 18 | | 20 |
| 1,2-Dibromoethane | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,3-Dichloropropane | 96 | | 100 | | 70-130 | 4 | | 20 |
| 1,1,1,2-Tetrachloroethane | 100 | | 100 | | 64-130 | 0 | | 20 |
| Bromobenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| n-Butylbenzene | 110 | | 110 | | 53-136 | 0 | | 20 |
| sec-Butylbenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| tert-Butylbenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| o-Chlorotoluene | 100 | | 110 | | 70-130 | 10 | | 20 |
| p-Chlorotoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 87 | | 97 | | 41-144 | 11 | | 20 |
| Hexachlorobutadiene | 100 | | 110 | | 63-130 | 10 | | 20 |
| Isopropylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Naphthalene | 77 | | 82 | | 70-130 | 6 | | 20 |
| n-Propylbenzene | 110 | | 110 | | 69-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 80 | | 87 | | 70-130 | 8 | | 20 |
| 1,2,4-Trichlorobenzene | 88 | | 91 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 100 | | 110 | | 64-130 | 10 | | 20 |
| 1,2,4-Trimethylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,4-Dioxane | 100 | | 116 | | 56-162 | 15 | | 20 |
| Freon-113 | 110 | | 100 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2053373
**Report Date:** 12/04/20

| 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: WG1440941-3 WG1440941-4 | | | | | | | | |
| p-Diethylbenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| p-Ethyltoluene | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 99 | | 100 | | 70-130 | 1 | | 20 |
| Ethyl ether | 98 | | 98 | | 59-134 | 0 | | 20 |
| trans-1,4-Dichloro-2-butene | 110 | | 100 | | 70-130 | 10 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 98 | | 97 | | 70-130 |
| Toluene-d8 | 102 | | 100 | | 70-130 |
| 4-Bromofluorobenzene | 100 | | 101 | | 70-130 |
| Dibromofluoromethane | 101 | | 100 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2053373
**Report Date:** 12/04/20

## 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(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2053373-01A | Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | NYTCL-8260(14) |
| L2053373-01B | Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | NYTCL-8260(14) |
| L2053373-01C | Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | NYTCL-8260(14) |
| L2053373-02A | Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | NYTCL-8260(14) |
| L2053373-02B | Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | NYTCL-8260(14) |
| L2053373-02C | Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | NYTCL-8260(14) |



*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2053373 |
| **Project Number:** | 20029 | **Report Date:** | 12/04/20 |

## GLOSSARY

***Acronyms***

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2053373 |
| **Project Number:** | 20029 | **Report Date:** | 12/04/20 |

***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.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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.

**F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

**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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2053373 |
| **Project Number:** | 20029 | **Report Date:** | 12/04/20 |

***Data Qualifiers***

**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:** | FESL | **Lab Number:** | L2053373 |
| **Project Number:** | 20029 | **Report Date:** | 12/04/20 |

## REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

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

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

# Certification Information

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

**Westborough Facility**
**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene
**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.
**EPA TO-12** Non-methane organics
**EPA 3C** Fixed gases
**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 JERSEY CHAIN OF CUSTODY

ALPHA

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: 12/2/20

ALPHA Job #: L2053373

## Client Information

Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

## Project Information

Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12786

## Turn-Around Time

Standard ☐ Due Date: 12/7/20 a.m.
Rush (only if pre approved) ☐ # of Days:

## Deliverables

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

## Regulatory Requirement

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

## Billing Information

☑ Same as Client Info
PO # 4715

## Site Information

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

These samples have been previously analyzed by Alpha ☐

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com

please include Freon-113

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

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | ANALYSIS: VOCs | Sample Specific Comments | Total Bottle |
|---|---|---|---|---|---|---|---|---|
| 53373 - 01 | SBW-07 Baseline | 12/2/2020 | 9:00 | GW | LC | x | | 3 |
| -02 | SBW-07 Baseline Dupe | 12/2/2020 | 9:05 | GW | LC | x | | 3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Container Type: G
Preservative: B

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

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

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

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 12/2/20 1020 | PAUL LAROCHE | 12/2/20 10:20 |
| PAUL LAROCHE | 12/2/20 1715 | | 12/2/20 1715 |
| | 12/2/20 1945 | | 12/2/20 1945 |

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.

Form No: 01-14 (rev. 30-Sept-2013)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L2056972 |
| Client: | XDD Environmental<br>Mary Scudieri<br>22 Marin Way Unit 3<br>Stratham, NH 03885 |
| ATTN: | Laurel Crawford |
| Phone: | (603) 778-1100 |
| Project Name: | FESL |
| Project Number: | 20029 |
| Report Date: | 01/06/21 |



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:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|---|---|---|---|---|---|
| L2056972-01 | SBW-07 BASELINE | WATER | ROCHESTER, NY | 12/21/20 08:30 | 12/21/20 |
| L2056972-02 | CTRL 4 FEET | WATER | ROCHESTER, NY | 12/21/20 08:35 | 12/21/20 |
| L2056972-03 | FLOW 4 FEET | WATER | ROCHESTER, NY | 12/21/20 08:40 | 12/21/20 |
| L2056972-04 | TARGET 4 FEET | WATER | ROCHESTER, NY | 12/21/20 08:45 | 12/21/20 |

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2056972 |
| **Project Number:** | 20029 | **Report Date:** | 01/06/21 |

## 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:** | FESL | **Lab Number:** | L2056972 |
| **Project Number:** | 20029 | **Report Date:** | 01/06/21 |

**Case Narrative (continued)**

Report Submission

January 06, 2021: This final report includes the results of all requested analyses.

December 23, 2020: This is a preliminary report.

Sample Receipt

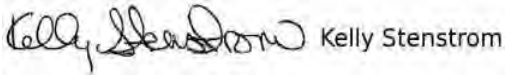
L2056972-01: The sample was received above the appropriate pH for the Dissolved Metals analysis. The laboratory added additional HNO3 to a pH <2.

Dissolved Metals

The WG1451356-1 Method Blank, associated with L2056972-01, has a concentration above the reporting limit for chromium. Since the sample was non-detect to the RL for this target analyte, no further actions were taken. The results of the original analysis are reported.

The WG1451356-3 MS recoveries for calcium (350%), magnesium (285%), potassium (306%), and sodium (600%), performed on L2056972-01, 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:  Kelly Stenstrom

Title: Technical Director/Representative Date: 01/06/21

# ORGANICS

# VOLATILES

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

## SAMPLE RESULTS

Lab ID: L2056972-01
Client ID: SBW-07 BASELINE
Sample Location: ROCHESTER, NY

Date Collected: 12/21/20 08:30
Date Received: 12/21/20
Field Prep: Refer to COC

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 12/23/20 11:52
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Dissolved Gases by GC - Mansfield Lab** | | | | | | | |
| Methane | 261 | | ug/l | 2.00 | -- | 1 | A |
| Ethene | 64.9 | | ug/l | 0.500 | -- | 1 | A |
| Ethane | 4.10 | | ug/l | 0.500 | -- | 1 | A |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2056972
**Report Date:** 01/06/21

## SAMPLE RESULTS

Lab ID: L2056972-02 D
Client ID: CTRL 4 FEET
Sample Location: ROCHESTER, NY

Date Collected: 12/21/20 08:35
Date Received: 12/21/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/22/20 16:38
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | -- | 2 |
| 1,1-Dichloroethane | 200 | | ug/l | 5.0 | -- | 2 |
| Chloroform | ND | | ug/l | 5.0 | -- | 2 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 2 |
| 1,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 2 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 2 |
| 1,1,2-Trichloroethane | ND | | ug/l | 3.0 | -- | 2 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 2 |
| Chlorobenzene | ND | | ug/l | 5.0 | -- | 2 |
| Trichlorofluoromethane | ND | | ug/l | 5.0 | -- | 2 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 2 |
| 1,1,1-Trichloroethane | 54 | | ug/l | 5.0 | -- | 2 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 2 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.0 | -- | 2 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.0 | -- | 2 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 1.0 | -- | 2 |
| 1,1-Dichloropropene | ND | | ug/l | 5.0 | -- | 2 |
| Bromoform | ND | | ug/l | 4.0 | -- | 2 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 2 |
| Benzene | ND | | ug/l | 1.0 | -- | 2 |
| Toluene | ND | | ug/l | 5.0 | -- | 2 |
| Ethylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| Chloromethane | ND | | ug/l | 5.0 | -- | 2 |
| Bromomethane | ND | | ug/l | 5.0 | -- | 2 |
| Vinyl chloride | 92 | | ug/l | 2.0 | -- | 2 |
| Chloroethane | 7.2 | | ug/l | 5.0 | -- | 2 |
| 1,1-Dichloroethene | 1.2 | | ug/l | 1.0 | -- | 2 |
| trans-1,2-Dichloroethene | ND | | ug/l | 5.0 | -- | 2 |

**Project Name:** FESL **Lab Number:** L2056972

**Project Number:** 20029 **Report Date:** 01/06/21

## SAMPLE RESULTS

Lab ID: L2056972-02 D
Client ID: CTRL 4 FEET
Sample Location: ROCHESTER, NY

Date Collected: 12/21/20 08:35
Date Received: 12/21/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 6.5 | | ug/l | 1.0 | -- | 2 |
| 1,2-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,3-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,4-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 2 |
| Methyl tert butyl ether | ND | | ug/l | 5.0 | -- | 2 |
| p/m-Xylene | ND | | ug/l | 5.0 | -- | 2 |
| o-Xylene | ND | | ug/l | 5.0 | -- | 2 |
| Xylenes, Total | ND | | ug/l | 5.0 | -- | 2 |
| cis-1,2-Dichloroethene | 160 | | ug/l | 5.0 | -- | 2 |
| 1,2-Dichloroethene, Total | 160 | | ug/l | 5.0 | -- | 2 |
| Dibromomethane | ND | | ug/l | 10 | -- | 2 |
| 1,2,3-Trichloropropane | ND | | ug/l | 5.0 | -- | 2 |
| Acrylonitrile | ND | | ug/l | 10 | -- | 2 |
| Styrene | ND | | ug/l | 5.0 | -- | 2 |
| Dichlorodifluoromethane | ND | | ug/l | 10 | -- | 2 |
| Acetone | 290 | | ug/l | 10 | -- | 2 |
| Carbon disulfide | ND | | ug/l | 10 | -- | 2 |
| 2-Butanone | ND | | ug/l | 10 | -- | 2 |
| Vinyl acetate | ND | | ug/l | 10 | -- | 2 |
| 4-Methyl-2-pentanone | ND | | ug/l | 10 | -- | 2 |
| 2-Hexanone | ND | | ug/l | 10 | -- | 2 |
| Bromochloromethane | ND | | ug/l | 5.0 | -- | 2 |
| 2,2-Dichloropropane | ND | | ug/l | 5.0 | -- | 2 |
| 1,2-Dibromoethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,3-Dichloropropane | ND | | ug/l | 5.0 | -- | 2 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 5.0 | -- | 2 |
| Bromobenzene | ND | | ug/l | 5.0 | -- | 2 |
| n-Butylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| sec-Butylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| tert-Butylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| o-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2 |
| p-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 5.0 | -- | 2 |
| Hexachlorobutadiene | ND | | ug/l | 5.0 | -- | 2 |
| Isopropylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| p-Isopropyltoluene | ND | | ug/l | 5.0 | -- | 2 |
| Naphthalene | ND | | ug/l | 5.0 | -- | 2 |

**Project Name:** FESL **Lab Number:** L2056972

**Project Number:** 20029 **Report Date:** 01/06/21

## SAMPLE RESULTS

Lab ID: L2056972-02 D Date Collected: 12/21/20 08:35

Client ID: CTRL 4 FEET Date Received: 12/21/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,4-Dioxane | ND | | ug/l | 500 | -- | 2 |
| Freon-113 | 13 | | ug/l | 5.0 | -- | 2 |
| p-Diethylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| p-Ethyltoluene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| Ethyl ether | ND | | ug/l | 5.0 | -- | 2 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 5.0 | -- | 2 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 108 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 110 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2056972

**Project Number:** 20029 **Report Date:** 01/06/21

**SAMPLE RESULTS**

Lab ID: L2056972-03 D
Client ID: FLOW 4 FEET
Sample Location: ROCHESTER, NY

Date Collected: 12/21/20 08:40
Date Received: 12/21/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/22/20 17:01
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | -- | 2 |
| 1,1-Dichloroethane | 240 | | ug/l | 5.0 | -- | 2 |
| Chloroform | ND | | ug/l | 5.0 | -- | 2 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | -- | 2 |
| 1,2-Dichloropropane | ND | | ug/l | 2.0 | -- | 2 |
| Dibromochloromethane | ND | | ug/l | 1.0 | -- | 2 |
| 1,1,2-Trichloroethane | ND | | ug/l | 3.0 | -- | 2 |
| Tetrachloroethene | ND | | ug/l | 1.0 | -- | 2 |
| Chlorobenzene | ND | | ug/l | 5.0 | -- | 2 |
| Trichlorofluoromethane | ND | | ug/l | 5.0 | -- | 2 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | -- | 2 |
| 1,1,1-Trichloroethane | ND | | ug/l | 5.0 | -- | 2 |
| Bromodichloromethane | ND | | ug/l | 1.0 | -- | 2 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.0 | -- | 2 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.0 | -- | 2 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 1.0 | -- | 2 |
| 1,1-Dichloropropene | ND | | ug/l | 5.0 | -- | 2 |
| Bromoform | ND | | ug/l | 4.0 | -- | 2 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | -- | 2 |
| Benzene | 1.2 | | ug/l | 1.0 | -- | 2 |
| Toluene | ND | | ug/l | 5.0 | -- | 2 |
| Ethylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| Chloromethane | ND | | ug/l | 5.0 | -- | 2 |
| Bromomethane | ND | | ug/l | 5.0 | -- | 2 |
| Vinyl chloride | 24 | | ug/l | 2.0 | -- | 2 |
| Chloroethane | 9.7 | | ug/l | 5.0 | -- | 2 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | -- | 2 |
| trans-1,2-Dichloroethene | ND | | ug/l | 5.0 | -- | 2 |

**Project Name:** FESL **Lab Number:** L2056972

**Project Number:** 20029 **Report Date:** 01/06/21

**SAMPLE RESULTS**

Lab ID: L2056972-03 D Date Collected: 12/21/20 08:40

Client ID: FLOW 4 FEET Date Received: 12/21/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | ND | | ug/l | 1.0 | -- | 2 |
| 1,2-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,3-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,4-Dichlorobenzene | ND | | ug/l | 5.0 | -- | 2 |
| Methyl tert butyl ether | ND | | ug/l | 5.0 | -- | 2 |
| p/m-Xylene | ND | | ug/l | 5.0 | -- | 2 |
| o-Xylene | ND | | ug/l | 5.0 | -- | 2 |
| Xylenes, Total | ND | | ug/l | 5.0 | -- | 2 |
| cis-1,2-Dichloroethene | 100 | | ug/l | 5.0 | -- | 2 |
| 1,2-Dichloroethene, Total | 100 | | ug/l | 5.0 | -- | 2 |
| Dibromomethane | ND | | ug/l | 10 | -- | 2 |
| 1,2,3-Trichloropropane | ND | | ug/l | 5.0 | -- | 2 |
| Acrylonitrile | ND | | ug/l | 10 | -- | 2 |
| Styrene | ND | | ug/l | 5.0 | -- | 2 |
| Dichlorodifluoromethane | ND | | ug/l | 10 | -- | 2 |
| Acetone | 270 | | ug/l | 10 | -- | 2 |
| Carbon disulfide | ND | | ug/l | 10 | -- | 2 |
| 2-Butanone | ND | | ug/l | 10 | -- | 2 |
| Vinyl acetate | ND | | ug/l | 10 | -- | 2 |
| 4-Methyl-2-pentanone | ND | | ug/l | 10 | -- | 2 |
| 2-Hexanone | ND | | ug/l | 10 | -- | 2 |
| Bromochloromethane | ND | | ug/l | 5.0 | -- | 2 |
| 2,2-Dichloropropane | ND | | ug/l | 5.0 | -- | 2 |
| 1,2-Dibromoethane | ND | | ug/l | 4.0 | -- | 2 |
| 1,3-Dichloropropane | ND | | ug/l | 5.0 | -- | 2 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 5.0 | -- | 2 |
| Bromobenzene | ND | | ug/l | 5.0 | -- | 2 |
| n-Butylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| sec-Butylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| tert-Butylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| o-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2 |
| p-Chlorotoluene | ND | | ug/l | 5.0 | -- | 2 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 5.0 | -- | 2 |
| Hexachlorobutadiene | ND | | ug/l | 5.0 | -- | 2 |
| Isopropylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| p-Isopropyltoluene | ND | | ug/l | 5.0 | -- | 2 |
| Naphthalene | ND | | ug/l | 5.0 | -- | 2 |

**Project Name:** FESL **Lab Number:** L2056972

**Project Number:** 20029 **Report Date:** 01/06/21

## SAMPLE RESULTS

Lab ID: L2056972-03 D Date Collected: 12/21/20 08:40

Client ID: FLOW 4 FEET Date Received: 12/21/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 5.0 | -- | 2 |
| 1,4-Dioxane | ND | | ug/l | 500 | -- | 2 |
| Freon-113 | ND | | ug/l | 5.0 | -- | 2 |
| p-Diethylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| p-Ethyltoluene | ND | | ug/l | 4.0 | -- | 2 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 4.0 | -- | 2 |
| Ethyl ether | ND | | ug/l | 5.0 | -- | 2 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 5.0 | -- | 2 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 112 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** FESL **Lab Number:** L2056972

**Project Number:** 20029 **Report Date:** 01/06/21

**SAMPLE RESULTS**

Lab ID: L2056972-04 D
Client ID: TARGET 4 FEET
Sample Location: ROCHESTER, NY

Date Collected: 12/21/20 08:45
Date Received: 12/21/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/22/20 17:24
Analyst: MM

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 6.2 | -- | 2.5 |
| 1,1-Dichloroethane | 250 | | ug/l | 6.2 | -- | 2.5 |
| Chloroform | ND | | ug/l | 6.2 | -- | 2.5 |
| Carbon tetrachloride | ND | | ug/l | 1.2 | -- | 2.5 |
| 1,2-Dichloropropane | ND | | ug/l | 2.5 | -- | 2.5 |
| Dibromochloromethane | ND | | ug/l | 1.2 | -- | 2.5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 3.8 | -- | 2.5 |
| Tetrachloroethene | ND | | ug/l | 1.2 | -- | 2.5 |
| Chlorobenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| Trichlorofluoromethane | ND | | ug/l | 6.2 | -- | 2.5 |
| 1,2-Dichloroethane | ND | | ug/l | 1.2 | -- | 2.5 |
| 1,1,1-Trichloroethane | ND | | ug/l | 6.2 | -- | 2.5 |
| Bromodichloromethane | ND | | ug/l | 1.2 | -- | 2.5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.2 | -- | 2.5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.2 | -- | 2.5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 1.2 | -- | 2.5 |
| 1,1-Dichloropropene | ND | | ug/l | 6.2 | -- | 2.5 |
| Bromoform | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.2 | -- | 2.5 |
| Benzene | 2.1 | | ug/l | 1.2 | -- | 2.5 |
| Toluene | ND | | ug/l | 6.2 | -- | 2.5 |
| Ethylbenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| Chloromethane | ND | | ug/l | 6.2 | -- | 2.5 |
| Bromomethane | ND | | ug/l | 6.2 | -- | 2.5 |
| Vinyl chloride | 4.4 | | ug/l | 2.5 | -- | 2.5 |
| Chloroethane | 11 | | ug/l | 6.2 | -- | 2.5 |
| 1,1-Dichloroethene | ND | | ug/l | 1.2 | -- | 2.5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 6.2 | -- | 2.5 |

**Project Name:** FESL **Lab Number:** L2056972

**Project Number:** 20029 **Report Date:** 01/06/21

## SAMPLE RESULTS

Lab ID: L2056972-04 D
Client ID: TARGET 4 FEET
Sample Location: ROCHESTER, NY

Date Collected: 12/21/20 08:45
Date Received: 12/21/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | ND | | ug/l | 1.2 | -- | 2.5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| Methyl tert butyl ether | ND | | ug/l | 6.2 | -- | 2.5 |
| p/m-Xylene | ND | | ug/l | 6.2 | -- | 2.5 |
| o-Xylene | ND | | ug/l | 6.2 | -- | 2.5 |
| Xylenes, Total | ND | | ug/l | 6.2 | -- | 2.5 |
| cis-1,2-Dichloroethene | 29 | | ug/l | 6.2 | -- | 2.5 |
| 1,2-Dichloroethene, Total | 29 | | ug/l | 6.2 | -- | 2.5 |
| Dibromomethane | ND | | ug/l | 12 | -- | 2.5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 6.2 | -- | 2.5 |
| Acrylonitrile | ND | | ug/l | 12 | -- | 2.5 |
| Styrene | ND | | ug/l | 6.2 | -- | 2.5 |
| Dichlorodifluoromethane | ND | | ug/l | 12 | -- | 2.5 |
| Acetone | 240 | | ug/l | 12 | -- | 2.5 |
| Carbon disulfide | ND | | ug/l | 12 | -- | 2.5 |
| 2-Butanone | ND | | ug/l | 12 | -- | 2.5 |
| Vinyl acetate | ND | | ug/l | 12 | -- | 2.5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 12 | -- | 2.5 |
| 2-Hexanone | ND | | ug/l | 12 | -- | 2.5 |
| Bromochloromethane | ND | | ug/l | 6.2 | -- | 2.5 |
| 2,2-Dichloropropane | ND | | ug/l | 6.2 | -- | 2.5 |
| 1,2-Dibromoethane | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,3-Dichloropropane | ND | | ug/l | 6.2 | -- | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 6.2 | -- | 2.5 |
| Bromobenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| n-Butylbenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| sec-Butylbenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| tert-Butylbenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| o-Chlorotoluene | ND | | ug/l | 6.2 | -- | 2.5 |
| p-Chlorotoluene | ND | | ug/l | 6.2 | -- | 2.5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 6.2 | -- | 2.5 |
| Hexachlorobutadiene | ND | | ug/l | 6.2 | -- | 2.5 |
| Isopropylbenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| p-Isopropyltoluene | ND | | ug/l | 6.2 | -- | 2.5 |
| Naphthalene | ND | | ug/l | 6.2 | -- | 2.5 |

**Project Name:** FESL **Lab Number:** L2056972

**Project Number:** 20029 **Report Date:** 01/06/21

## SAMPLE RESULTS

Lab ID: L2056972-04 D Date Collected: 12/21/20 08:45

Client ID: TARGET 4 FEET Date Received: 12/21/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 6.2 | -- | 2.5 |
| 1,4-Dioxane | ND | | ug/l | 620 | -- | 2.5 |
| Freon-113 | ND | | ug/l | 6.2 | -- | 2.5 |
| p-Diethylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| p-Ethyltoluene | ND | | ug/l | 5.0 | -- | 2.5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 5.0 | -- | 2.5 |
| Ethyl ether | ND | | ug/l | 6.2 | -- | 2.5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 6.2 | -- | 2.5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 109 | | 70-130 |
| Dibromofluoromethane | 97 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 117,-
Analytical Date: 12/23/20 06:56
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | |
|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab for sample(s): 01 Batch: WG1448486-3 | | | | | | |
| Methane | ND | | ug/l | 2.00 | -- | A |
| Ethene | ND | | ug/l | 0.500 | -- | A |
| Ethane | ND | | ug/l | 0.500 | -- | A |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/22/20 11:14
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-04 Batch: WG1448494-5 | | | | | |
| Methylene chloride | ND | | ug/l | 2.5 | -- |
| 1,1-Dichloroethane | ND | | ug/l | 2.5 | -- |
| Chloroform | ND | | ug/l | 2.5 | -- |
| Carbon tetrachloride | ND | | ug/l | 0.50 | -- |
| 1,2-Dichloropropane | ND | | ug/l | 1.0 | -- |
| Dibromochloromethane | ND | | ug/l | 0.50 | -- |
| 1,1,2-Trichloroethane | ND | | ug/l | 1.5 | -- |
| Tetrachloroethene | ND | | ug/l | 0.50 | -- |
| Chlorobenzene | ND | | ug/l | 2.5 | -- |
| Trichlorofluoromethane | ND | | ug/l | 2.5 | -- |
| 1,2-Dichloroethane | ND | | ug/l | 0.50 | -- |
| 1,1,1-Trichloroethane | ND | | ug/l | 2.5 | -- |
| Bromodichloromethane | ND | | ug/l | 0.50 | -- |
| trans-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| cis-1,3-Dichloropropene | ND | | ug/l | 0.50 | -- |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | -- |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | -- |
| Bromoform | ND | | ug/l | 2.0 | -- |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 0.50 | -- |
| Benzene | ND | | ug/l | 0.50 | -- |
| Toluene | ND | | ug/l | 2.5 | -- |
| Ethylbenzene | ND | | ug/l | 2.5 | -- |
| Chloromethane | ND | | ug/l | 2.5 | -- |
| Bromomethane | ND | | ug/l | 2.5 | -- |
| Vinyl chloride | ND | | ug/l | 1.0 | -- |
| Chloroethane | ND | | ug/l | 2.5 | -- |
| 1,1-Dichloroethene | ND | | ug/l | 0.50 | -- |
| trans-1,2-Dichloroethene | ND | | ug/l | 2.5 | -- |
| Trichloroethene | ND | | ug/l | 0.50 | -- |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/22/20 11:14
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-04 Batch: WG1448494-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | -- |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | -- |
| 1,4-Dichlorobenzene | ND | | ug/l | 2.5 | -- |
| Methyl tert butyl ether | ND | | ug/l | 2.5 | -- |
| p/m-Xylene | ND | | ug/l | 2.5 | -- |
| o-Xylene | ND | | ug/l | 2.5 | -- |
| Xylenes, Total | ND | | ug/l | 2.5 | -- |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | -- |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | -- |
| Dibromomethane | ND | | ug/l | 5.0 | -- |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | -- |
| Acrylonitrile | ND | | ug/l | 5.0 | -- |
| Styrene | ND | | ug/l | 2.5 | -- |
| Dichlorodifluoromethane | ND | | ug/l | 5.0 | -- |
| Acetone | ND | | ug/l | 5.0 | -- |
| Carbon disulfide | ND | | ug/l | 5.0 | -- |
| 2-Butanone | ND | | ug/l | 5.0 | -- |
| Vinyl acetate | ND | | ug/l | 5.0 | -- |
| 4-Methyl-2-pentanone | ND | | ug/l | 5.0 | -- |
| 2-Hexanone | ND | | ug/l | 5.0 | -- |
| Bromochloromethane | ND | | ug/l | 2.5 | -- |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | -- |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | -- |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | -- |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | -- |
| Bromobenzene | ND | | ug/l | 2.5 | -- |
| n-Butylbenzene | ND | | ug/l | 2.5 | -- |
| sec-Butylbenzene | ND | | ug/l | 2.5 | -- |
| tert-Butylbenzene | ND | | ug/l | 2.5 | -- |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2056972
**Report Date:** 01/06/21

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/22/20 11:14
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-04 Batch: WG1448494-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | -- |
| p-Chlorotoluene | ND | | ug/l | 2.5 | -- |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | -- |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | -- |
| Isopropylbenzene | ND | | ug/l | 2.5 | -- |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | -- |
| Naphthalene | ND | | ug/l | 2.5 | -- |
| n-Propylbenzene | ND | | ug/l | 2.5 | -- |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 2.5 | -- |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 2.5 | -- |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 2.5 | -- |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 2.5 | -- |
| 1,4-Dioxane | ND | | ug/l | 250 | -- |
| Freon-113 | ND | | ug/l | 2.5 | -- |
| p-Diethylbenzene | ND | | ug/l | 2.0 | -- |
| p-Ethyltoluene | ND | | ug/l | 2.0 | -- |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | -- |
| Ethyl ether | ND | | ug/l | 2.5 | -- |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | -- |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 110 | | 70-130 |
| Dibromofluoromethane | 94 | | 70-130 |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL

**Project Number:** 20029

**Lab Number:** L2056972

**Report Date:** 01/06/21

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|---|---|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01 Batch: WG1448486-2 | | | | | | | | | |
| Methane | 102 | | - | | 80-120 | - | | 25 | A |
| Ethene | 91 | | - | | 80-120 | - | | 25 | A |
| Ethane | 90 | | - | | 80-120 | - | | 25 | A |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

| 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: WG1448494-3 WG1448494-4 | | | | | | | | |
| Methylene chloride | 94 | | 96 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| Chloroform | 100 | | 100 | | 70-130 | 0 | | 20 |
| Carbon tetrachloride | 100 | | 100 | | 63-132 | 0 | | 20 |
| 1,2-Dichloropropane | 98 | | 100 | | 70-130 | 2 | | 20 |
| Dibromochloromethane | 91 | | 94 | | 63-130 | 3 | | 20 |
| 1,1,2-Trichloroethane | 94 | | 96 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Chlorobenzene | 100 | | 100 | | 75-130 | 0 | | 20 |
| Trichlorofluoromethane | 98 | | 100 | | 62-150 | 2 | | 20 |
| 1,2-Dichloroethane | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,1,1-Trichloroethane | 100 | | 100 | | 67-130 | 0 | | 20 |
| Bromodichloromethane | 96 | | 100 | | 67-130 | 4 | | 20 |
| trans-1,3-Dichloropropene | 100 | | 100 | | 70-130 | 0 | | 20 |
| cis-1,3-Dichloropropene | 95 | | 96 | | 70-130 | 1 | | 20 |
| 1,1-Dichloropropene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Bromoform | 85 | | 89 | | 54-136 | 5 | | 20 |
| 1,1,2,2-Tetrachloroethane | 94 | | 96 | | 67-130 | 2 | | 20 |
| Benzene | 95 | | 97 | | 70-130 | 2 | | 20 |
| Toluene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Ethylbenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Chloromethane | 73 | | 72 | | 64-130 | 1 | | 20 |
| Bromomethane | 120 | | 100 | | 39-139 | 18 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

| 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: WG1448494-3 WG1448494-4 | | | | | | | | |
| Vinyl chloride | 81 | | 83 | | 55-140 | 2 | | 20 |
| Chloroethane | 87 | | 88 | | 55-138 | 1 | | 20 |
| 1,1-Dichloroethene | 91 | | 94 | | 61-145 | 3 | | 20 |
| trans-1,2-Dichloroethene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Trichloroethene | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Methyl tert butyl ether | 92 | | 94 | | 63-130 | 2 | | 20 |
| p/m-Xylene | 100 | | 100 | | 70-130 | 0 | | 20 |
| o-Xylene | 95 | | 100 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 91 | | 94 | | 70-130 | 3 | | 20 |
| Dibromomethane | 92 | | 92 | | 70-130 | 0 | | 20 |
| 1,2,3-Trichloropropane | 95 | | 96 | | 64-130 | 1 | | 20 |
| Acrylonitrile | 93 | | 91 | | 70-130 | 2 | | 20 |
| Styrene | 90 | | 95 | | 70-130 | 5 | | 20 |
| Dichlorodifluoromethane | 74 | | 75 | | 36-147 | 1 | | 20 |
| Acetone | 86 | | 88 | | 58-148 | 2 | | 20 |
| Carbon disulfide | 93 | | 93 | | 51-130 | 0 | | 20 |
| 2-Butanone | 90 | | 86 | | 63-138 | 5 | | 20 |
| Vinyl acetate | 100 | | 100 | | 70-130 | 0 | | 20 |
| 4-Methyl-2-pentanone | 79 | | 80 | | 59-130 | 1 | | 20 |
| 2-Hexanone | 87 | | 88 | | 57-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

| 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: WG1448494-3 WG1448494-4 | | | | | | | | |
| Bromochloromethane | 95 | | 96 | | 70-130 | 1 | | 20 |
| 2,2-Dichloropropane | 110 | | 110 | | 63-133 | 0 | | 20 |
| 1,2-Dibromoethane | 90 | | 92 | | 70-130 | 2 | | 20 |
| 1,3-Dichloropropane | 97 | | 98 | | 70-130 | 1 | | 20 |
| 1,1,1,2-Tetrachloroethane | 95 | | 97 | | 64-130 | 2 | | 20 |
| Bromobenzene | 100 | | 100 | | 70-130 | 0 | | 20 |
| n-Butylbenzene | 110 | | 110 | | 53-136 | 0 | | 20 |
| sec-Butylbenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| tert-Butylbenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| o-Chlorotoluene | 110 | | 120 | | 70-130 | 9 | | 20 |
| p-Chlorotoluene | 110 | | 110 | | 70-130 | 0 | | 20 |
| 1,2-Dibromo-3-chloropropane | 68 | | 72 | | 41-144 | 6 | | 20 |
| Hexachlorobutadiene | 110 | | 120 | | 63-130 | 9 | | 20 |
| Isopropylbenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| p-Isopropyltoluene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Naphthalene | 82 | | 90 | | 70-130 | 9 | | 20 |
| n-Propylbenzene | 110 | | 110 | | 69-130 | 0 | | 20 |
| 1,2,3-Trichlorobenzene | 84 | | 93 | | 70-130 | 10 | | 20 |
| 1,2,4-Trichlorobenzene | 96 | | 99 | | 70-130 | 3 | | 20 |
| 1,3,5-Trimethylbenzene | 100 | | 110 | | 64-130 | 10 | | 20 |
| 1,2,4-Trimethylbenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,4-Dioxane | 84 | | 88 | | 56-162 | 5 | | 20 |
| Freon-113 | 110 | | 110 | | 70-130 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

| 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: WG1448494-3 WG1448494-4 | | | | | | | | |
| p-Diethylbenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| p-Ethyltoluene | 110 | | 110 | | 70-130 | 0 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Ethyl ether | 96 | | 95 | | 59-134 | 1 | | 20 |
| trans-1,4-Dichloro-2-butene | 97 | | 97 | | 70-130 | 0 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 107 | | 105 | | 70-130 |
| Toluene-d8 | 104 | | 103 | | 70-130 |
| 4-Bromofluorobenzene | 110 | | 111 | | 70-130 |
| Dibromofluoromethane | 97 | | 97 | | 70-130 |

# METALS

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2056972
**Report Date:** 01/06/21

## SAMPLE RESULTS

Lab ID: L2056972-01
Client ID: SBW-07 BASELINE
Sample Location: ROCHESTER, NY
Date Collected: 12/21/20 08:30
Date Received: 12/21/20
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dissolved Metals - Mansfield Lab** | | | | | | | | | | | |
| Aluminum, Dissolved | ND | | mg/l | 0.0100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Antimony, Dissolved | ND | | mg/l | 0.00400 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Arsenic, Dissolved | 0.00160 | | mg/l | 0.00050 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Barium, Dissolved | 1.245 | | mg/l | 0.00050 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Beryllium, Dissolved | ND | | mg/l | 0.00050 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Cadmium, Dissolved | ND | | mg/l | 0.00020 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Calcium, Dissolved | 120. | | mg/l | 0.100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Chromium, Dissolved | ND | | mg/l | 0.00100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Cobalt, Dissolved | 0.00141 | | mg/l | 0.00050 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Copper, Dissolved | ND | | mg/l | 0.00100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Iron, Dissolved | 0.144 | | mg/l | 0.0500 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Lead, Dissolved | ND | | mg/l | 0.00100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Magnesium, Dissolved | 69.5 | | mg/l | 0.0700 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Manganese, Dissolved | 0.04689 | | mg/l | 0.00100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Mercury, Dissolved | ND | | mg/l | 0.00020 | -- | 1 | 01/04/21 14:13 | 01/04/21 23:13 | EPA 7470A | 1,7470A | VW |
| Nickel, Dissolved | 0.00329 | | mg/l | 0.00200 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Potassium, Dissolved | 80.4 | | mg/l | 0.100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Selenium, Dissolved | ND | | mg/l | 0.00500 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Silver, Dissolved | ND | | mg/l | 0.00040 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Sodium, Dissolved | 350. | | mg/l | 0.100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Thallium, Dissolved | ND | | mg/l | 0.00050 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Vanadium, Dissolved | ND | | mg/l | 0.00500 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |
| Zinc, Dissolved | ND | | mg/l | 0.01000 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:59 | EPA 3005A | 1,6020B | AM |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab for sample(s): 01 Batch: WG1451356-1 | | | | | | | | | | |
| Aluminum, Dissolved | ND | | mg/l | 0.0100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Antimony, Dissolved | ND | | mg/l | 0.00400 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Arsenic, Dissolved | ND | | mg/l | 0.00050 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Barium, Dissolved | ND | | mg/l | 0.00050 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Beryllium, Dissolved | ND | | mg/l | 0.00050 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Cadmium, Dissolved | ND | | mg/l | 0.00020 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Calcium, Dissolved | ND | | mg/l | 0.100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Chromium, Dissolved | 0.00109 | | mg/l | 0.00100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Cobalt, Dissolved | ND | | mg/l | 0.00050 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Copper, Dissolved | ND | | mg/l | 0.00100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Iron, Dissolved | ND | | mg/l | 0.0500 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Lead, Dissolved | ND | | mg/l | 0.00100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Magnesium, Dissolved | ND | | mg/l | 0.0700 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Manganese, Dissolved | ND | | mg/l | 0.00100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Nickel, Dissolved | ND | | mg/l | 0.00200 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Potassium, Dissolved | ND | | mg/l | 0.100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Selenium, Dissolved | ND | | mg/l | 0.00500 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Silver, Dissolved | ND | | mg/l | 0.00040 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Sodium, Dissolved | ND | | mg/l | 0.100 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Thallium, Dissolved | ND | | mg/l | 0.00050 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Vanadium, Dissolved | ND | | mg/l | 0.00500 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |
| Zinc, Dissolved | ND | | mg/l | 0.01000 | -- | 1 | 01/04/21 13:42 | 01/05/21 09:24 | 1,6020B | AM |

**Prep Information**

Digestion Method: EPA 3005A

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab for sample(s): 01 Batch: WG1451357-1 | | | | | | | | | | |
| Mercury, Dissolved | ND | | mg/l | 0.00020 | -- | 1 | 01/04/21 14:13 | 01/04/21 23:00 | 1,7470A | VW |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

# Method Blank Analysis
# Batch Quality Control

**Prep Information**

Digestion Method: EPA 7470A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL

**Project Number:** 20029

**Lab Number:** L2056972

**Report Date:** 01/06/21

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1451356-2 | | | | | | | | |
| Aluminum, Dissolved | 106 | | - | | 80-120 | - | | |
| Antimony, Dissolved | 90 | | - | | 80-120 | - | | |
| Arsenic, Dissolved | 105 | | - | | 80-120 | - | | |
| Barium, Dissolved | 104 | | - | | 80-120 | - | | |
| Beryllium, Dissolved | 110 | | - | | 80-120 | - | | |
| Cadmium, Dissolved | 110 | | - | | 80-120 | - | | |
| Calcium, Dissolved | 104 | | - | | 80-120 | - | | |
| Chromium, Dissolved | 100 | | - | | 80-120 | - | | |
| Cobalt, Dissolved | 102 | | - | | 80-120 | - | | |
| Copper, Dissolved | 101 | | - | | 80-120 | - | | |
| Iron, Dissolved | 98 | | - | | 80-120 | - | | |
| Lead, Dissolved | 102 | | - | | 80-120 | - | | |
| Magnesium, Dissolved | 105 | | - | | 80-120 | - | | |
| Manganese, Dissolved | 100 | | - | | 80-120 | - | | |
| Nickel, Dissolved | 98 | | - | | 80-120 | - | | |
| Potassium, Dissolved | 106 | | - | | 80-120 | - | | |
| Selenium, Dissolved | 103 | | - | | 80-120 | - | | |
| Silver, Dissolved | 103 | | - | | 80-120 | - | | |
| Sodium, Dissolved | 104 | | - | | 80-120 | - | | |
| Thallium, Dissolved | 97 | | - | | 80-120 | - | | |
| Vanadium, Dissolved | 100 | | - | | 80-120 | - | | |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL

**Project Number:** 20029

**Lab Number:** L2056972

**Report Date:** 01/06/21

| Parameter | LCS %Recovery | LCSD %Recovery | %Recovery Limits | RPD | RPD Limits |
|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1451356-2 | | | | | |
| Zinc, Dissolved | 110 | - | 80-120 | - | |
| Dissolved Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1451357-2 | | | | | |
| Mercury, Dissolved | 91 | - | 80-120 | - | |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1451356-3 QC Sample: L2056972-01 Client ID: SBW-07 BASELINE | | | | | | | | | | | | |
| Aluminum, Dissolved | ND | 2 | 2.25 | 112 | | - | - | | 75-125 | - | | 20 |
| Antimony, Dissolved | ND | 0.5 | 0.5163 | 103 | | - | - | | 75-125 | - | | 20 |
| Arsenic, Dissolved | 0.00160 | 0.12 | 0.1379 | 114 | | - | - | | 75-125 | - | | 20 |
| Barium, Dissolved | 1.245 | 2 | 3.328 | 104 | | - | - | | 75-125 | - | | 20 |
| Beryllium, Dissolved | ND | 0.05 | 0.05308 | 106 | | - | - | | 75-125 | - | | 20 |
| Cadmium, Dissolved | ND | 0.051 | 0.05548 | 109 | | - | - | | 75-125 | - | | 20 |
| Calcium, Dissolved | 120 | 10 | 155 | **350** | Q | - | - | | 75-125 | - | | 20 |
| Chromium, Dissolved | ND | 0.2 | 0.1891 | 94 | | - | - | | 75-125 | - | | 20 |
| Cobalt, Dissolved | 0.00141 | 0.5 | 0.5240 | 104 | | - | - | | 75-125 | - | | 20 |
| Copper, Dissolved | ND | 0.25 | 0.2629 | 105 | | - | - | | 75-125 | - | | 20 |
| Iron, Dissolved | 0.144 | 1 | 1.20 | 106 | | - | - | | 75-125 | - | | 20 |
| Lead, Dissolved | ND | 0.51 | 0.5252 | 103 | | - | - | | 75-125 | - | | 20 |
| Magnesium, Dissolved | 69.5 | 10 | 98.0 | **285** | Q | - | - | | 75-125 | - | | 20 |
| Manganese, Dissolved | 0.04689 | 0.5 | 0.5389 | 98 | | - | - | | 75-125 | - | | 20 |
| Nickel, Dissolved | 0.00329 | 0.5 | 0.5073 | 101 | | - | - | | 75-125 | - | | 20 |
| Potassium, Dissolved | 80.4 | 10 | 111 | **306** | Q | - | - | | 75-125 | - | | 20 |
| Selenium, Dissolved | ND | 0.12 | 0.134 | 112 | | - | - | | 75-125 | - | | 20 |
| Silver, Dissolved | ND | 0.05 | 0.05185 | 104 | | - | - | | 75-125 | - | | 20 |
| Sodium, Dissolved | 350 | 10 | 410 | **600** | Q | - | - | | 75-125 | - | | 20 |
| Thallium, Dissolved | ND | 0.12 | 0.1136 | 95 | | - | - | | 75-125 | - | | 20 |
| Vanadium, Dissolved | ND | 0.5 | 0.4837 | 97 | | - | - | | 75-125 | - | | 20 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | MSD Found | MSD %Recovery | Recovery Limits | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1451356-3 QC Sample: L2056972-01 Client ID: SBW-07 BASELINE | | | | | | | | | |
| Zinc, Dissolved | ND | 0.5 | 0.5728 | 114 | - | - | 75-125 | - | 20 |
| Dissolved Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1451357-3 QC Sample: L2056972-01 Client ID: SBW-07 BASELINE | | | | | | | | | |
| Mercury, Dissolved | ND | 0.005 | 0.00415 | 83 | - | - | 75-125 | - | 20 |

# Lab Duplicate Analysis
*Batch Quality Control*

**Project Name:** FESL
**Project Number:** 20029

***Lab Number:*** L2056972
***Report Date:*** 01/06/21

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1451356-4 QC Sample: L2056972-01 Client ID: SBW-07 BASELINE | | | | | | |
| Aluminum, Dissolved | ND | ND | mg/l | NC | | 20 |
| Antimony, Dissolved | ND | ND | mg/l | NC | | 20 |
| Arsenic, Dissolved | 0.00160 | 0.00167 | mg/l | 4 | | 20 |
| Barium, Dissolved | 1.245 | 1.236 | mg/l | 1 | | 20 |
| Beryllium, Dissolved | ND | ND | mg/l | NC | | 20 |
| Cadmium, Dissolved | ND | ND | mg/l | NC | | 20 |
| Calcium, Dissolved | 120 | 124 | mg/l | 3 | | 20 |
| Chromium, Dissolved | ND | ND | mg/l | NC | | 20 |
| Cobalt, Dissolved | 0.00141 | 0.00141 | mg/l | 0 | | 20 |
| Copper, Dissolved | ND | ND | mg/l | NC | | 20 |
| Iron, Dissolved | 0.144 | 0.156 | mg/l | 8 | | 20 |
| Lead, Dissolved | ND | ND | mg/l | NC | | 20 |
| Magnesium, Dissolved | 69.5 | 70.0 | mg/l | 1 | | 20 |
| Manganese, Dissolved | 0.04689 | 0.04784 | mg/l | 2 | | 20 |
| Nickel, Dissolved | 0.00329 | 0.00339 | mg/l | 3 | | 20 |
| Potassium, Dissolved | 80.4 | 81.6 | mg/l | 1 | | 20 |
| Selenium, Dissolved | ND | ND | mg/l | NC | | 20 |
| Silver, Dissolved | ND | ND | mg/l | NC | | 20 |
| Sodium, Dissolved | 350 | 350 | mg/l | 0 | | 20 |

# Lab Duplicate Analysis

***Batch Quality Control***

**Project Name:** FESL
**Project Number:** 20029

***Lab Number:*** L2056972
***Report Date:*** 01/06/21

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits |
|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1451356-4 QC Sample: L2056972-01 Client ID: SBW-07 BASELINE | | | | | |
| Thallium, Dissolved | ND | ND | mg/l | NC | 20 |
| Vanadium, Dissolved | ND | ND | mg/l | NC | 20 |
| Zinc, Dissolved | ND | ND | mg/l | NC | 20 |
| Dissolved Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1451357-4 QC Sample: L2056972-01 Client ID: SBW-07 BASELINE | | | | | |
| Mercury, Dissolved | ND | ND | mg/l | NC | 20 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

## SAMPLE RESULTS

Lab ID: L2056972-01
Client ID: SBW-07 BASELINE
Sample Location: ROCHESTER, NY

Date Collected: 12/21/20 08:30
Date Received: 12/21/20
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Alkalinity, Total | 1340 | | mg CaCO3/L | 5.00 | NA | 2.5 | - | 12/29/20 05:35 | 121,2320B | JA |
| Sulfate | ND | | mg/l | 10 | -- | 1 | 01/05/21 14:44 | 01/05/21 14:44 | 1,9038 | JB |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

# Method Blank Analysis
## Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1449704-1 | | | | | | | | | | |
| Alkalinity, Total | ND | | mg CaCO3/L | 2.00 | NA | 1 | - | 12/29/20 05:35 | 121,2320B | JA |
| General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1451763-1 | | | | | | | | | | |
| Sulfate | ND | | mg/l | 10 | -- | 1 | 01/05/21 14:44 | 01/05/21 14:44 | 1,9038 | JB |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL

**Project Number:** 20029

**Lab Number:** L2056972

**Report Date:** 01/06/21

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1449704-2 | | | | | | | | |
| Alkalinity, Total | 104 | | - | | 90-110 | - | | 10 |
| General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1451763-2 | | | | | | | | |
| Sulfate | 95 | | - | | 90-110 | - | | |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1449704-4 QC Sample: L2057096-02 Client ID: MS Sample | | | | | | | | | | | | |
| Alkalinity, Total | 40.0 | 100 | 154 | 114 | | - | - | | 86-116 | - | | 10 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1451763-4 QC Sample: L2056008-01 Client ID: MS Sample | | | | | | | | | | | | |
| Sulfate | 1000 | 1000 | 2000 | 101 | | - | - | | 55-147 | - | | 14 |

# Lab Duplicate Analysis

***Batch Quality Control***

**Project Name:** FESL
**Project Number:** 20029

***Lab Number:*** L2056972
***Report Date:*** 01/06/21

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1449704-3 QC Sample: L2057096-01 Client ID: DUP Sample | | | | | | |
| Alkalinity, Total | 404 | 402 | mg CaCO3/L | 0 | | 10 |
| General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1451763-3 QC Sample: L2056008-01 Client ID: DUP Sample | | | | | | |
| Sulfate | 1000 | 1000 | mg/l | 0 | | 14 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2056972
**Report Date:** 01/06/21

## 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(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2056972-01A | 20ml Vial HCl preserved | A | NA | | 4.4 | Y | Absent | | DISSGAS(14) |
| L2056972-01B | 20ml Vial HCl preserved | A | NA | | 4.4 | Y | Absent | | DISSGAS(14) |
| L2056972-01C | Plastic 60ml unpreserved | A | 7 | 7 | 4.4 | Y | Absent | | SO4-9038(28) |
| L2056972-01D | Plastic 250ml unpreserved/No Headspace | A | NA | | 4.4 | Y | Absent | | ALK-T-2320(14) |
| L2056972-01E | Plastic 250ml HNO3 preserved | A | 4 | <2 | 4.4 | N | Absent | | K-6020S(180),CU-6020S(180),SE-6020S(180),V-6020S(180),MN-6020S(180),MG-6020S(180),BE-6020S(180),CO-6020S(180),ZN-6020S(180),FE-6020S(180),CA-6020S(180),CR-6020S(180),BA-6020S(180),NI-6020S(180),PB-6020S(180),TL-6020S(180),NA-6020S(180),SB-6020S(180),AS-6020S(180),AG-6020S(180),AL-6020S(180),HG-S(28),CD-6020S(180) |
| L2056972-02A | Vial HCl preserved | A | NA | | 4.4 | Y | Absent | | NYTCL-8260(14) |
| L2056972-02B | Vial HCl preserved | A | NA | | 4.4 | Y | Absent | | NYTCL-8260(14) |
| L2056972-03A | Vial HCl preserved | A | NA | | 4.4 | Y | Absent | | NYTCL-8260(14) |
| L2056972-03B | Vial HCl preserved | A | NA | | 4.4 | Y | Absent | | NYTCL-8260(14) |
| L2056972-04A | Vial HCl preserved | A | NA | | 4.4 | Y | Absent | | NYTCL-8260(14) |
| L2056972-04B | Vial HCl preserved | A | NA | | 4.4 | Y | Absent | | NYTCL-8260(14) |



*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2056972 |
| **Project Number:** | 20029 | **Report Date:** | 01/06/21 |

## GLOSSARY

***Acronyms***

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

*Report Format: Data Usability Report*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2056972 |
| **Project Number:** | 20029 | **Report Date:** | 01/06/21 |

***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.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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.

**F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

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

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

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

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

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

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

**NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

*Report Format: Data Usability Report*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2056972 |
| **Project Number:** | 20029 | **Report Date:** | 01/06/21 |

***Data Qualifiers***

the identification is based on a mass spectral library search.

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

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

**R** - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

**S** - Analytical results are from modified screening analysis.

*Report Format: Data Usability Report*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2056972 |
| **Project Number:** | 20029 | **Report Date:** | 01/06/21 |

## REFERENCES


1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

117 Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, EPA-NE, Revision 1, February 21, 2002 and Sample Preparation & Calculations for Dissolved Gas Analysis in Water Samples using a GC Headspace Equilibration Technique, EPA RSKSOP-175, Revision 2, May 2004.

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


## LIMITATION OF LIABILITIES

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

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

# Certification Information

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

**Westborough Facility**
**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene
**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.
**EPA TO-12** Non-methane organics
**EPA 3C** Fixed gases
**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 JERSEY CHAIN OF CUSTODY

ALPHA ANALYTICAL

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

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

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

Page 1 of 1

Date Rec'd in Lab: 12/21/20

ALPHA Job #: L2056972

## Client Information

Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: jcrawford@xdd-llc.com

## Project Information

Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12786

## Turn-Around Time

Standard ☐
Rush (only if pre approved) ☐
Due Date: 12/23/20 VOCs only
# of Days:

## Deliverables

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

## Regulatory Requirement

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

## Billing Information

☑ Same as Client Info
PO # 4715

## Site Information

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

These samples have been previously analyzed by Alpha ☐

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com

please include Freon-113; all other analyses standard TAT;
please copy bjoy@xdd-llc.com and marley@xdd-llc.com on results

**ANALYSIS**

**Sample Filtration**
☒ Done For Metals
☐ Lab to do
**Preservation**
☐ Lab to do
*(Please Specify below)*

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs | Dissolved Gases | Alkalinity | Sulfate | Dissolved Metals TAL | | | | Sample Specific Comments | Total Bottles |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L6972-01 | SBW-07 Baseline | 12/21/2020 | 8:30 | GW | LC | | x | x | x | x | | | | | 4 |
| 02 | Ctrl 4 feet | 12/21/2020 | 8:35 | GW | LC | x | | | | | | | | | 1 |
| 03 | Flow 4 feet | 12/21/2020 | 8:40 | GW | LC | x | | | | | | | | | 1 |
| 04 | Target 4 feet | 12/21/2020 | 8:45 | GW | LC | x | | | | | | | | | 1 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Container Type: G G P P
Preservative: B B A A

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

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

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

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 12/21/20 1013 | | |
| [illegible] AAL LaRiviere | 12/21/20 1700 | [illegible] AAL LaRiviere | 12/21/20 10:12 |
| Rob Maerto | 12/21/20 1845 | Rob Maerto AM | 12/21/20 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.

Form No: 01-14 (rev. 30-Sept-2013)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L2057677 |
| Client: | XDD Environmental<br>Mary Scudieri<br>22 Marin Way Unit 3<br>Stratham, NH 03885 |
| ATTN: | Laurel Crawford |
| Phone: | (603) 778-1100 |
| Project Name: | FESL |
| Project Number: | 20029 |
| Report Date: | 01/05/21 |



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:** FESL
**Project Number:** 20029

**Lab Number:** L2057677
**Report Date:** 01/05/21

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|---|---|---|---|---|---|
| L2057677-01 | FLOW 8 FEET | WATER | ROCHESTER, NY | 12/24/20 16:30 | 12/28/20 |
| L2057677-02 | TARGET 8 FEET | WATER | ROCHESTER, NY | 12/24/20 16:35 | 12/28/20 |
| L2057677-03 | CTRL 8 FEET | WATER | ROCHESTER, NY | 12/24/20 16:40 | 12/28/20 |

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2057677 |
| **Project Number:** | 20029 | **Report Date:** | 01/05/21 |

## 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:** | FESL | **Lab Number:** | L2057677 |
| **Project Number:** | 20029 | **Report Date:** | 01/05/21 |

**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: 01/05/21

# ORGANICS

# VOLATILES

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2057677
**Report Date:** 01/05/21

## SAMPLE RESULTS

Lab ID: L2057677-01 D
Client ID: FLOW 8 FEET
Sample Location: ROCHESTER, NY

Date Collected: 12/24/20 16:30
Date Received: 12/28/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/04/21 12:08
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethane | 470 | | ug/l | 6.2 | 1.8 | 2.5 |
| Chloroform | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Carbon tetrachloride | ND | | ug/l | 1.2 | 0.34 | 2.5 |
| 1,2-Dichloropropane | ND | | ug/l | 2.5 | 0.34 | 2.5 |
| Dibromochloromethane | ND | | ug/l | 1.2 | 0.37 | 2.5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 3.8 | 1.2 | 2.5 |
| Tetrachloroethene | 41 | | ug/l | 1.2 | 0.45 | 2.5 |
| Chlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Trichlorofluoromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethane | ND | | ug/l | 1.2 | 0.33 | 2.5 |
| 1,1,1-Trichloroethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromodichloromethane | ND | | ug/l | 1.2 | 0.48 | 2.5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.41 | 2.5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,1-Dichloropropene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromoform | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.2 | 0.42 | 2.5 |
| Benzene | 2.5 | | ug/l | 1.2 | 0.40 | 2.5 |
| Toluene | 2.8 | J | ug/l | 6.2 | 1.8 | 2.5 |
| Ethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Chloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromomethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Vinyl chloride | 28 | | ug/l | 2.5 | 0.18 | 2.5 |
| Chloroethane | 21 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethene | ND | | ug/l | 1.2 | 0.42 | 2.5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2057677

**Project Number:** 20029 **Report Date:** 01/05/21

## SAMPLE RESULTS

Lab ID: L2057677-01 D
Client ID: FLOW 8 FEET
Sample Location: ROCHESTER, NY

Date Collected: 12/24/20 16:30
Date Received: 12/28/20
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 4.1 | | ug/l | 1.2 | 0.44 | 2.5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Methyl tert butyl ether | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p/m-Xylene | 5.5 | J | ug/l | 6.2 | 1.8 | 2.5 |
| o-Xylene | 2.0 | J | ug/l | 6.2 | 1.8 | 2.5 |
| Xylenes, Total | 7.5 | J | ug/l | 6.2 | 1.8 | 2.5 |
| cis-1,2-Dichloroethene | 180 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethene, Total | 180 | | ug/l | 6.2 | 1.8 | 2.5 |
| Dibromomethane | ND | | ug/l | 12 | 2.5 | 2.5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Acrylonitrile | ND | | ug/l | 12 | 3.8 | 2.5 |
| Styrene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Dichlorodifluoromethane | 3.5 | J | ug/l | 12 | 2.5 | 2.5 |
| Acetone | 27 | | ug/l | 12 | 3.6 | 2.5 |
| Carbon disulfide | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Butanone | ND | | ug/l | 12 | 4.8 | 2.5 |
| Vinyl acetate | ND | | ug/l | 12 | 2.5 | 2.5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Hexanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| Bromochloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 2,2-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromoethane | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,3-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| n-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| sec-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| tert-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| o-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Hexachlorobutadiene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Isopropylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Isopropyltoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Naphthalene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2057677

**Project Number:** 20029 **Report Date:** 01/05/21

## SAMPLE RESULTS

Lab ID: L2057677-01 D Date Collected: 12/24/20 16:30

Client ID: FLOW 8 FEET Date Received: 12/28/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3,5-Trimethylbenzene | 2.4 | J | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trimethylbenzene | 3.4 | J | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dioxane | 180 | J | ug/l | 620 | 150 | 2.5 |
| Freon-113 | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Diethylbenzene | ND | | ug/l | 5.0 | 1.8 | 2.5 |
| p-Ethyltoluene | 2.0 | J | ug/l | 5.0 | 1.8 | 2.5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 5.0 | 1.4 | 2.5 |
| Ethyl ether | 8.6 | | ug/l | 6.2 | 1.8 | 2.5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 105 | | 70-130 |
| Toluene-d8 | 101 | | 70-130 |
| 4-Bromofluorobenzene | 110 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2057677
**Report Date:** 01/05/21

## SAMPLE RESULTS

Lab ID: L2057677-02 D
Client ID: TARGET 8 FEET
Sample Location: ROCHESTER, NY

Date Collected: 12/24/20 16:35
Date Received: 12/28/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/04/21 12:29
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethane | 350 | | ug/l | 6.2 | 1.8 | 2.5 |
| Chloroform | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Carbon tetrachloride | ND | | ug/l | 1.2 | 0.34 | 2.5 |
| 1,2-Dichloropropane | ND | | ug/l | 2.5 | 0.34 | 2.5 |
| Dibromochloromethane | ND | | ug/l | 1.2 | 0.37 | 2.5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 3.8 | 1.2 | 2.5 |
| Tetrachloroethene | ND | | ug/l | 1.2 | 0.45 | 2.5 |
| Chlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Trichlorofluoromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethane | ND | | ug/l | 1.2 | 0.33 | 2.5 |
| 1,1,1-Trichloroethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromodichloromethane | ND | | ug/l | 1.2 | 0.48 | 2.5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.41 | 2.5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,1-Dichloropropene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromoform | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.2 | 0.42 | 2.5 |
| Benzene | 3.2 | | ug/l | 1.2 | 0.40 | 2.5 |
| Toluene | 3.2 | J | ug/l | 6.2 | 1.8 | 2.5 |
| Ethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Chloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromomethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Vinyl chloride | 2.3 | J | ug/l | 2.5 | 0.18 | 2.5 |
| Chloroethane | 20 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethene | ND | | ug/l | 1.2 | 0.42 | 2.5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2057677

**Project Number:** 20029 **Report Date:** 01/05/21

## SAMPLE RESULTS

Lab ID: L2057677-02 D Date Collected: 12/24/20 16:35

Client ID: TARGET 8 FEET Date Received: 12/28/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | ND | | ug/l | 1.2 | 0.44 | 2.5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Methyl tert butyl ether | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p/m-Xylene | 5.6 | J | ug/l | 6.2 | 1.8 | 2.5 |
| o-Xylene | 2.2 | J | ug/l | 6.2 | 1.8 | 2.5 |
| Xylenes, Total | 7.8 | J | ug/l | 6.2 | 1.8 | 2.5 |
| cis-1,2-Dichloroethene | 26 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethene, Total | 26 | | ug/l | 6.2 | 1.8 | 2.5 |
| Dibromomethane | ND | | ug/l | 12 | 2.5 | 2.5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Acrylonitrile | ND | | ug/l | 12 | 3.8 | 2.5 |
| Styrene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Dichlorodifluoromethane | ND | | ug/l | 12 | 2.5 | 2.5 |
| Acetone | 26 | | ug/l | 12 | 3.6 | 2.5 |
| Carbon disulfide | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Butanone | ND | | ug/l | 12 | 4.8 | 2.5 |
| Vinyl acetate | ND | | ug/l | 12 | 2.5 | 2.5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Hexanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| Bromochloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 2,2-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromoethane | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,3-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| n-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| sec-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| tert-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| o-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Hexachlorobutadiene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Isopropylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Isopropyltoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Naphthalene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2057677

**Project Number:** 20029 **Report Date:** 01/05/21

## SAMPLE RESULTS

Lab ID: L2057677-02 D Date Collected: 12/24/20 16:35

Client ID: TARGET 8 FEET Date Received: 12/28/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3,5-Trimethylbenzene | 2.9 | J | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trimethylbenzene | 4.0 | J | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dioxane | 180 | J | ug/l | 620 | 150 | 2.5 |
| Freon-113 | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Diethylbenzene | ND | | ug/l | 5.0 | 1.8 | 2.5 |
| p-Ethyltoluene | 2.7 | J | ug/l | 5.0 | 1.8 | 2.5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 5.0 | 1.4 | 2.5 |
| Ethyl ether | 7.8 | | ug/l | 6.2 | 1.8 | 2.5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 117 | | 70-130 |
| Toluene-d8 | 103 | | 70-130 |
| 4-Bromofluorobenzene | 111 | | 70-130 |
| Dibromofluoromethane | 101 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2057677
**Report Date:** 01/05/21

## SAMPLE RESULTS

Lab ID: L2057677-03 D
Client ID: CTRL 8 FEET
Sample Location: ROCHESTER, NY

Date Collected: 12/24/20 16:40
Date Received: 12/28/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/04/21 12:51
Analyst: AJK

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethane | 450 | | ug/l | 6.2 | 1.8 | 2.5 |
| Chloroform | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Carbon tetrachloride | ND | | ug/l | 1.2 | 0.34 | 2.5 |
| 1,2-Dichloropropane | ND | | ug/l | 2.5 | 0.34 | 2.5 |
| Dibromochloromethane | ND | | ug/l | 1.2 | 0.37 | 2.5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 3.8 | 1.2 | 2.5 |
| Tetrachloroethene | ND | | ug/l | 1.2 | 0.45 | 2.5 |
| Chlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Trichlorofluoromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethane | ND | | ug/l | 1.2 | 0.33 | 2.5 |
| 1,1,1-Trichloroethane | 140 | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromodichloromethane | ND | | ug/l | 1.2 | 0.48 | 2.5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.41 | 2.5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,1-Dichloropropene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromoform | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.2 | 0.42 | 2.5 |
| Benzene | 1.3 | | ug/l | 1.2 | 0.40 | 2.5 |
| Toluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Ethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Chloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromomethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Vinyl chloride | 180 | | ug/l | 2.5 | 0.18 | 2.5 |
| Chloroethane | 17 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethene | 3.1 | | ug/l | 1.2 | 0.42 | 2.5 |
| trans-1,2-Dichloroethene | 3.6 | J | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2057677

**Project Number:** 20029 **Report Date:** 01/05/21

**SAMPLE RESULTS**

Lab ID: L2057677-03 D Date Collected: 12/24/20 16:40
Client ID: CTRL 8 FEET Date Received: 12/28/20
Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 14 | | ug/l | 1.2 | 0.44 | 2.5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Methyl tert butyl ether | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p/m-Xylene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| o-Xylene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Xylenes, Total | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| cis-1,2-Dichloroethene | 400 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethene, Total | 400 | J | ug/l | 6.2 | 1.8 | 2.5 |
| Dibromomethane | ND | | ug/l | 12 | 2.5 | 2.5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Acrylonitrile | ND | | ug/l | 12 | 3.8 | 2.5 |
| Styrene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Dichlorodifluoromethane | 3.1 | J | ug/l | 12 | 2.5 | 2.5 |
| Acetone | 13 | | ug/l | 12 | 3.6 | 2.5 |
| Carbon disulfide | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Butanone | ND | | ug/l | 12 | 4.8 | 2.5 |
| Vinyl acetate | ND | | ug/l | 12 | 2.5 | 2.5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Hexanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| Bromochloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 2,2-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromoethane | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,3-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| n-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| sec-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| tert-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| o-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Hexachlorobutadiene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Isopropylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Isopropyltoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Naphthalene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2057677

**Project Number:** 20029 **Report Date:** 01/05/21

## SAMPLE RESULTS

Lab ID: L2057677-03 D Date Collected: 12/24/20 16:40

Client ID: CTRL 8 FEET Date Received: 12/28/20

Sample Location: ROCHESTER, NY Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dioxane | 160 | J | ug/l | 620 | 150 | 2.5 |
| Freon-113 | 55 | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Diethylbenzene | ND | | ug/l | 5.0 | 1.8 | 2.5 |
| p-Ethyltoluene | ND | | ug/l | 5.0 | 1.8 | 2.5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 5.0 | 1.4 | 2.5 |
| Ethyl ether | 9.2 | | ug/l | 6.2 | 1.8 | 2.5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 109 | | 70-130 |
| Toluene-d8 | 102 | | 70-130 |
| 4-Bromofluorobenzene | 110 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2057677
**Report Date:** 01/05/21

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/04/21 08:34
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1451519-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2057677
**Report Date:** 01/05/21

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/04/21 08:34
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1451519-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2057677
**Report Date:** 01/05/21

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/04/21 08:34
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1451519-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 106 | | 70-130 |
| Toluene-d8 | 104 | | 70-130 |
| 4-Bromofluorobenzene | 113 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2057677
**Report Date:** 01/05/21

| 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: WG1451519-3 WG1451519-4 | | | | | | | | |
| Methylene chloride | 94 | | 100 | | 70-130 | 6 | | 20 |
| 1,1-Dichloroethane | 110 | | 120 | | 70-130 | 9 | | 20 |
| Chloroform | 95 | | 100 | | 70-130 | 5 | | 20 |
| Carbon tetrachloride | 91 | | 98 | | 63-132 | 7 | | 20 |
| 1,2-Dichloropropane | 100 | | 110 | | 70-130 | 10 | | 20 |
| Dibromochloromethane | 92 | | 100 | | 63-130 | 8 | | 20 |
| 1,1,2-Trichloroethane | 91 | | 100 | | 70-130 | 9 | | 20 |
| Tetrachloroethene | 94 | | 97 | | 70-130 | 3 | | 20 |
| Chlorobenzene | 100 | | 110 | | 75-130 | 10 | | 20 |
| Trichlorofluoromethane | 96 | | 100 | | 62-150 | 4 | | 20 |
| 1,2-Dichloroethane | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,1,1-Trichloroethane | 95 | | 100 | | 67-130 | 5 | | 20 |
| Bromodichloromethane | 92 | | 100 | | 67-130 | 8 | | 20 |
| trans-1,3-Dichloropropene | 89 | | 98 | | 70-130 | 10 | | 20 |
| cis-1,3-Dichloropropene | 90 | | 96 | | 70-130 | 6 | | 20 |
| 1,1-Dichloropropene | 95 | | 99 | | 70-130 | 4 | | 20 |
| Bromoform | 89 | | 99 | | 54-136 | 11 | | 20 |
| 1,1,2,2-Tetrachloroethane | 92 | | 100 | | 67-130 | 8 | | 20 |
| Benzene | 96 | | 100 | | 70-130 | 4 | | 20 |
| Toluene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Ethylbenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| Chloromethane | 130 | | **140** | Q | 64-130 | 7 | | 20 |
| Bromomethane | 130 | | **140** | Q | 39-139 | 7 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2057677
**Report Date:** 01/05/21

| 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: WG1451519-3 WG1451519-4 | | | | | | | | |
| Vinyl chloride | 110 | | 120 | | 55-140 | 9 | | 20 |
| Chloroethane | 120 | | **140** | Q | 55-138 | 15 | | 20 |
| 1,1-Dichloroethene | 95 | | 99 | | 61-145 | 4 | | 20 |
| trans-1,2-Dichloroethene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Trichloroethene | 97 | | 100 | | 70-130 | 3 | | 20 |
| 1,2-Dichlorobenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| 1,3-Dichlorobenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| 1,4-Dichlorobenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| Methyl tert butyl ether | 91 | | 98 | | 63-130 | 7 | | 20 |
| p/m-Xylene | 105 | | 115 | | 70-130 | 9 | | 20 |
| o-Xylene | 110 | | 110 | | 70-130 | 0 | | 20 |
| cis-1,2-Dichloroethene | 94 | | 100 | | 70-130 | 6 | | 20 |
| Dibromomethane | 94 | | 100 | | 70-130 | 6 | | 20 |
| 1,2,3-Trichloropropane | 88 | | 100 | | 64-130 | 13 | | 20 |
| Acrylonitrile | 110 | | 110 | | 70-130 | 0 | | 20 |
| Styrene | 105 | | 115 | | 70-130 | 9 | | 20 |
| Dichlorodifluoromethane | 110 | | 110 | | 36-147 | 0 | | 20 |
| Acetone | 110 | | 120 | | 58-148 | 9 | | 20 |
| Carbon disulfide | 93 | | 97 | | 51-130 | 4 | | 20 |
| 2-Butanone | 120 | | 120 | | 63-138 | 0 | | 20 |
| Vinyl acetate | 110 | | 110 | | 70-130 | 0 | | 20 |
| 4-Methyl-2-pentanone | 93 | | 110 | | 59-130 | 17 | | 20 |
| 2-Hexanone | 90 | | 100 | | 57-130 | 11 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2057677
**Report Date:** 01/05/21

| 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: WG1451519-3 WG1451519-4 | | | | | | | | |
| Bromochloromethane | 95 | | 100 | | 70-130 | 5 | | 20 |
| 2,2-Dichloropropane | 100 | | 110 | | 63-133 | 10 | | 20 |
| 1,2-Dibromoethane | 89 | | 98 | | 70-130 | 10 | | 20 |
| 1,3-Dichloropropane | 94 | | 100 | | 70-130 | 6 | | 20 |
| 1,1,1,2-Tetrachloroethane | 96 | | 100 | | 64-130 | 4 | | 20 |
| Bromobenzene | 99 | | 110 | | 70-130 | 11 | | 20 |
| n-Butylbenzene | 100 | | 110 | | 53-136 | 10 | | 20 |
| sec-Butylbenzene | 100 | | 110 | | 70-130 | 10 | | 20 |
| tert-Butylbenzene | 94 | | 97 | | 70-130 | 3 | | 20 |
| o-Chlorotoluene | 120 | | 120 | | 70-130 | 0 | | 20 |
| p-Chlorotoluene | 110 | | 120 | | 70-130 | 9 | | 20 |
| 1,2-Dibromo-3-chloropropane | 70 | | 90 | | 41-144 | **25** | Q | 20 |
| Hexachlorobutadiene | 82 | | 86 | | 63-130 | 5 | | 20 |
| Isopropylbenzene | 110 | | 120 | | 70-130 | 9 | | 20 |
| p-Isopropyltoluene | 110 | | 110 | | 70-130 | 0 | | 20 |
| Naphthalene | **67** | Q | 77 | | 70-130 | 14 | | 20 |
| n-Propylbenzene | 110 | | 120 | | 69-130 | 9 | | 20 |
| 1,2,3-Trichlorobenzene | **69** | Q | 79 | | 70-130 | 14 | | 20 |
| 1,2,4-Trichlorobenzene | 78 | | 87 | | 70-130 | 11 | | 20 |
| 1,3,5-Trimethylbenzene | 110 | | 120 | | 64-130 | 9 | | 20 |
| 1,2,4-Trimethylbenzene | 110 | | 120 | | 70-130 | 9 | | 20 |
| 1,4-Dioxane | 82 | | 86 | | 56-162 | 5 | | 20 |
| Freon-113 | 100 | | 110 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2057677
**Report Date:** 01/05/21

| 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: WG1451519-3 WG1451519-4 | | | | | | | | |
| p-Diethylbenzene | 110 | | 110 | | 70-130 | 0 | | 20 |
| p-Ethyltoluene | 110 | | 120 | | 70-130 | 9 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 98 | | 100 | | 70-130 | 2 | | 20 |
| Ethyl ether | 92 | | 110 | | 59-134 | 18 | | 20 |
| trans-1,4-Dichloro-2-butene | 100 | | 120 | | 70-130 | 18 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 99 | | 70-130 |
| Toluene-d8 | 104 | | 102 | | 70-130 |
| 4-Bromofluorobenzene | 110 | | 112 | | 70-130 |
| Dibromofluoromethane | 100 | | 99 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2057677
**Report Date:** 01/05/21

## 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(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2057677-01A | Vial HCl preserved | A | NA | | 2.4 | Y | Absent | | NYTCL-8260(14) |
| L2057677-01B | Vial HCl preserved | A | NA | | 2.4 | Y | Absent | | NYTCL-8260(14) |
| L2057677-02A | Vial HCl preserved | A | NA | | 2.4 | Y | Absent | | NYTCL-8260(14) |
| L2057677-02B | Vial HCl preserved | A | NA | | 2.4 | Y | Absent | | NYTCL-8260(14) |
| L2057677-03A | Vial HCl preserved | A | NA | | 2.4 | Y | Absent | | NYTCL-8260(14) |
| L2057677-03B | Vial HCl preserved | A | NA | | 2.4 | Y | Absent | | NYTCL-8260(14) |



*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2057677 |
| **Project Number:** | 20029 | **Report Date:** | 01/05/21 |

## GLOSSARY

***Acronyms***

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2057677 |
| **Project Number:** | 20029 | **Report Date:** | 01/05/21 |

***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.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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.

**F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

**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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2057677 |
| **Project Number:** | 20029 | **Report Date:** | 01/05/21 |

***Data Qualifiers***

**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.

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2057677 |
| **Project Number:** | 20029 | **Report Date:** | 01/05/21 |

## REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

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

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

# Certification Information

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

**Westborough Facility**
**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene
**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.
**EPA TO-12** Non-methane organics
**EPA 3C** Fixed gases
**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.

ALPHA ANALYTICAL

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

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

# NEW JERSEY 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: 12/28/20

ALPHA Job #: L2057677

## Client Information

Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

## Project Information

Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12786

## Turn-Around Time

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

These samples have been previously analyzed by Alpha ☐

## Deliverables

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

## Regulatory Requirement

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

## Billing Information

☑ Same as Client Info
PO # 4715

## Site Information

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

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com

please include Freon-113

## ANALYSIS

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs | Sample Filtration | Total Bottle |
|---|---|---|---|---|---|---|---|---|
| 57677-01 | Flow 8 feet | 12/24/2020 | 16:30 | GW | LC | x | | 2 |
| -02 | Target 8 feet | 12/24/2020 | 16:35 | GW | LC | x | | 2 |
| -03 | Ctrl 8 feet | 12/24/2020 | 16:40 | GW | LC | x | | 2 |

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

Sample Specific Comments

Container Type: G
Preservative: B

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

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

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

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 12/28/20 8:40 | AHL | 12/28/20 8:40 |
| T. Huddleson | 12/28/20 1040 | T. Huddleson HUDDLESON | 12/28/20 1040 |

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.

Form No: 01-14 (rev. 30-Sept-2013)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L2100020 |
| Client: | XDD Environmental<br>Mary Scudieri<br>22 Marin Way Unit 3<br>Stratham, NH 03885 |
| ATTN: | Laurel Crawford |
| Phone: | (603) 778-1100 |
| Project Name: | FESL |
| Project Number: | 20029 |
| Report Date: | 01/11/21 |



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:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|---|---|---|---|---|---|
| L2100020-01 | CTRL 4 FEET DUP | WATER | ROCHESTER, NY | 12/30/20 19:00 | 01/04/21 |
| L2100020-02 | FLOW 4 FEET DUP | WATER | ROCHESTER, NY | 12/30/20 19:01 | 01/04/21 |
| L2100020-03 | TARGET 4 FEET DUP | WATER | ROCHESTER, NY | 12/30/20 19:02 | 01/04/21 |

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2100020 |
| **Project Number:** | 20029 | **Report Date:** | 01/11/21 |

## 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:** | FESL | **Lab Number:** | L2100020 |
| **Project Number:** | 20029 | **Report Date:** | 01/11/21 |

**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.

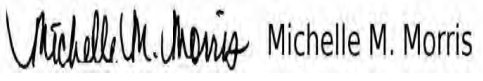
Sample Receipt

L2100020-01 and -03: Headspace was noted in the sample containers submitted for Total Alkalinity - SM 2320. The analysis was performed at the client's request.

Dissolved Gases

The WG1452916-5 MS recoveries, performed on L2100020-01, are outside the acceptance criteria for methane (78%), ethene (72%), and ethane (71%); however, the associated LCS recoveries are within overall method allowances. No further action was required.

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

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 01/11/21

# ORGANICS

# VOLATILES

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

## SAMPLE RESULTS

Lab ID: L2100020-01
Client ID: CTRL 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:00
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 01/08/21 09:14
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Dissolved Gases by GC - Mansfield Lab** | | | | | | | |
| Methane | 2.64 | | ug/l | 2.00 | 2.00 | 1 | A |
| Ethene | 6.85 | | ug/l | 0.500 | 0.500 | 1 | A |
| Ethane | 1.32 | | ug/l | 0.500 | 0.500 | 1 | A |

**Project Name:** FESL **Lab Number:** L2100020

**Project Number:** 20029 **Report Date:** 01/11/21

## SAMPLE RESULTS

Lab ID: L2100020-01 D
Client ID: CTRL 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:00
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/07/21 00:06
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethane | 260 | | ug/l | 6.2 | 1.8 | 2.5 |
| Chloroform | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Carbon tetrachloride | ND | | ug/l | 1.2 | 0.34 | 2.5 |
| 1,2-Dichloropropane | ND | | ug/l | 2.5 | 0.34 | 2.5 |
| Dibromochloromethane | ND | | ug/l | 1.2 | 0.37 | 2.5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 3.8 | 1.2 | 2.5 |
| Tetrachloroethene | 0.50 | J | ug/l | 1.2 | 0.45 | 2.5 |
| Chlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Trichlorofluoromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethane | ND | | ug/l | 1.2 | 0.33 | 2.5 |
| 1,1,1-Trichloroethane | 100 | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromodichloromethane | ND | | ug/l | 1.2 | 0.48 | 2.5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.41 | 2.5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,1-Dichloropropene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromoform | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.2 | 0.42 | 2.5 |
| Benzene | 1.0 | J | ug/l | 1.2 | 0.40 | 2.5 |
| Toluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Ethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Chloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromomethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Vinyl chloride | 79 | | ug/l | 2.5 | 0.18 | 2.5 |
| Chloroethane | 9.3 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethene | 2.4 | | ug/l | 1.2 | 0.42 | 2.5 |
| trans-1,2-Dichloroethene | 2.6 | J | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2100020

**Project Number:** 20029 **Report Date:** 01/11/21

## SAMPLE RESULTS

Lab ID: L2100020-01 D
Client ID: CTRL 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:00
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 11 | | ug/l | 1.2 | 0.44 | 2.5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Methyl tert butyl ether | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p/m-Xylene | 2.0 | J | ug/l | 6.2 | 1.8 | 2.5 |
| o-Xylene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Xylenes, Total | 2.0 | J | ug/l | 6.2 | 1.8 | 2.5 |
| cis-1,2-Dichloroethene | 310 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethene, Total | 310 | J | ug/l | 6.2 | 1.8 | 2.5 |
| Dibromomethane | ND | | ug/l | 12 | 2.5 | 2.5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Acrylonitrile | ND | | ug/l | 12 | 3.8 | 2.5 |
| Styrene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Dichlorodifluoromethane | ND | | ug/l | 12 | 2.5 | 2.5 |
| Acetone | ND | | ug/l | 12 | 3.6 | 2.5 |
| Carbon disulfide | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Butanone | ND | | ug/l | 12 | 4.8 | 2.5 |
| Vinyl acetate | ND | | ug/l | 12 | 2.5 | 2.5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Hexanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| Bromochloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 2,2-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromoethane | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,3-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| n-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| sec-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| tert-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| o-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Hexachlorobutadiene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Isopropylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Isopropyltoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Naphthalene | 2.6 | J | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2100020

**Project Number:** 20029 **Report Date:** 01/11/21

## SAMPLE RESULTS

Lab ID: L2100020-01 D
Client ID: CTRL 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:00
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3,5-Trimethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trimethylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dioxane | 240 | J | ug/l | 620 | 150 | 2.5 |
| Freon-113 | 53 | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Diethylbenzene | ND | | ug/l | 5.0 | 1.8 | 2.5 |
| p-Ethyltoluene | ND | | ug/l | 5.0 | 1.8 | 2.5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 5.0 | 1.4 | 2.5 |
| Ethyl ether | 8.4 | | ug/l | 6.2 | 1.8 | 2.5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 96 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 102 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2100020
**Report Date:** 01/11/21

## SAMPLE RESULTS

Lab ID: L2100020-02
Client ID: FLOW 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:01
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 01/08/21 09:32
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Dissolved Gases by GC - Mansfield Lab** | | | | | | | |
| Methane | 174 | | ug/l | 2.00 | 2.00 | 1 | A |
| Ethene | 56.0 | | ug/l | 0.500 | 0.500 | 1 | A |
| Ethane | 70.7 | | ug/l | 0.500 | 0.500 | 1 | A |

**Project Name:** FESL **Lab Number:** L2100020

**Project Number:** 20029 **Report Date:** 01/11/21

**SAMPLE RESULTS**

Lab ID: L2100020-02 D
Client ID: FLOW 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:01
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/07/21 00:34
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethane | 300 | | ug/l | 6.2 | 1.8 | 2.5 |
| Chloroform | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Carbon tetrachloride | ND | | ug/l | 1.2 | 0.34 | 2.5 |
| 1,2-Dichloropropane | ND | | ug/l | 2.5 | 0.34 | 2.5 |
| Dibromochloromethane | ND | | ug/l | 1.2 | 0.37 | 2.5 |
| 1,1,2-Trichloroethane | ND | | ug/l | 3.8 | 1.2 | 2.5 |
| Tetrachloroethene | 21 | | ug/l | 1.2 | 0.45 | 2.5 |
| Chlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Trichlorofluoromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethane | ND | | ug/l | 1.2 | 0.33 | 2.5 |
| 1,1,1-Trichloroethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromodichloromethane | ND | | ug/l | 1.2 | 0.48 | 2.5 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.41 | 2.5 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 1.2 | 0.36 | 2.5 |
| 1,1-Dichloropropene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromoform | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.2 | 0.42 | 2.5 |
| Benzene | 2.3 | | ug/l | 1.2 | 0.40 | 2.5 |
| Toluene | 2.6 | J | ug/l | 6.2 | 1.8 | 2.5 |
| Ethylbenzene | 1.8 | J | ug/l | 6.2 | 1.8 | 2.5 |
| Chloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromomethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Vinyl chloride | 16 | | ug/l | 2.5 | 0.18 | 2.5 |
| Chloroethane | 18 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1-Dichloroethene | ND | | ug/l | 1.2 | 0.42 | 2.5 |
| trans-1,2-Dichloroethene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2100020

**Project Number:** 20029 **Report Date:** 01/11/21

## SAMPLE RESULTS

Lab ID: L2100020-02 D
Client ID: FLOW 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:01
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | 2.2 | | ug/l | 1.2 | 0.44 | 2.5 |
| 1,2-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Methyl tert butyl ether | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p/m-Xylene | 6.0 | J | ug/l | 6.2 | 1.8 | 2.5 |
| o-Xylene | 2.6 | J | ug/l | 6.2 | 1.8 | 2.5 |
| Xylenes, Total | 8.6 | J | ug/l | 6.2 | 1.8 | 2.5 |
| cis-1,2-Dichloroethene | 98 | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dichloroethene, Total | 98 | | ug/l | 6.2 | 1.8 | 2.5 |
| Dibromomethane | ND | | ug/l | 12 | 2.5 | 2.5 |
| 1,2,3-Trichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Acrylonitrile | ND | | ug/l | 12 | 3.8 | 2.5 |
| Styrene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Dichlorodifluoromethane | ND | | ug/l | 12 | 2.5 | 2.5 |
| Acetone | 5.9 | J | ug/l | 12 | 3.6 | 2.5 |
| Carbon disulfide | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Butanone | ND | | ug/l | 12 | 4.8 | 2.5 |
| Vinyl acetate | ND | | ug/l | 12 | 2.5 | 2.5 |
| 4-Methyl-2-pentanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| 2-Hexanone | ND | | ug/l | 12 | 2.5 | 2.5 |
| Bromochloromethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 2,2-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromoethane | ND | | ug/l | 5.0 | 1.6 | 2.5 |
| 1,3-Dichloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Bromobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| n-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| sec-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| tert-Butylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| o-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Chlorotoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Hexachlorobutadiene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Isopropylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Isopropyltoluene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| Naphthalene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

**Project Name:** FESL **Lab Number:** L2100020

**Project Number:** 20029 **Report Date:** 01/11/21

## SAMPLE RESULTS

Lab ID: L2100020-02 D
Client ID: FLOW 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:01
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| 1,3,5-Trimethylbenzene | 2.3 | J | ug/l | 6.2 | 1.8 | 2.5 |
| 1,2,4-Trimethylbenzene | 3.8 | J | ug/l | 6.2 | 1.8 | 2.5 |
| 1,4-Dioxane | 270 | J | ug/l | 620 | 150 | 2.5 |
| Freon-113 | ND | | ug/l | 6.2 | 1.8 | 2.5 |
| p-Diethylbenzene | ND | | ug/l | 5.0 | 1.8 | 2.5 |
| p-Ethyltoluene | 2.0 | J | ug/l | 5.0 | 1.8 | 2.5 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 5.0 | 1.4 | 2.5 |
| Ethyl ether | 9.1 | | ug/l | 6.2 | 1.8 | 2.5 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 6.2 | 1.8 | 2.5 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 95 | | 70-130 |
| Toluene-d8 | 98 | | 70-130 |
| 4-Bromofluorobenzene | 95 | | 70-130 |
| Dibromofluoromethane | 103 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2100020
**Report Date:** 01/11/21

## SAMPLE RESULTS

Lab ID: L2100020-03
Client ID: TARGET 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:02
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 01/08/21 09:49
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Column |
|---|---|---|---|---|---|---|---|
| **Dissolved Gases by GC - Mansfield Lab** | | | | | | | |
| Methane | 75.7 | | ug/l | 2.00 | 2.00 | 1 | A |
| Ethene | 244 | | ug/l | 0.500 | 0.500 | 1 | A |
| Ethane | 99.5 | | ug/l | 0.500 | 0.500 | 1 | A |

**Project Name:** FESL **Lab Number:** L2100020

**Project Number:** 20029 **Report Date:** 01/11/21

**SAMPLE RESULTS**

Lab ID: L2100020-03 D
Client ID: TARGET 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:02
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/07/21 01:02
Analyst: PD

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Methylene chloride | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,1-Dichloroethane | 250 | | ug/l | 5.0 | 1.4 | 2 |
| Chloroform | ND | | ug/l | 5.0 | 1.4 | 2 |
| Carbon tetrachloride | ND | | ug/l | 1.0 | 0.27 | 2 |
| 1,2-Dichloropropane | ND | | ug/l | 2.0 | 0.27 | 2 |
| Dibromochloromethane | ND | | ug/l | 1.0 | 0.30 | 2 |
| 1,1,2-Trichloroethane | ND | | ug/l | 3.0 | 1.0 | 2 |
| Tetrachloroethene | ND | | ug/l | 1.0 | 0.36 | 2 |
| Chlorobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Trichlorofluoromethane | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,2-Dichloroethane | ND | | ug/l | 1.0 | 0.26 | 2 |
| 1,1,1-Trichloroethane | ND | | ug/l | 5.0 | 1.4 | 2 |
| Bromodichloromethane | ND | | ug/l | 1.0 | 0.38 | 2 |
| trans-1,3-Dichloropropene | ND | | ug/l | 1.0 | 0.33 | 2 |
| cis-1,3-Dichloropropene | ND | | ug/l | 1.0 | 0.29 | 2 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 1.0 | 0.29 | 2 |
| 1,1-Dichloropropene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Bromoform | ND | | ug/l | 4.0 | 1.3 | 2 |
| 1,1,2,2-Tetrachloroethane | ND | | ug/l | 1.0 | 0.33 | 2 |
| Benzene | 3.4 | | ug/l | 1.0 | 0.32 | 2 |
| Toluene | 3.1 | J | ug/l | 5.0 | 1.4 | 2 |
| Ethylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Chloromethane | ND | | ug/l | 5.0 | 1.4 | 2 |
| Bromomethane | ND | | ug/l | 5.0 | 1.4 | 2 |
| Vinyl chloride | 1.3 | J | ug/l | 2.0 | 0.14 | 2 |
| Chloroethane | 16 | | ug/l | 5.0 | 1.4 | 2 |
| 1,1-Dichloroethene | ND | | ug/l | 1.0 | 0.34 | 2 |
| trans-1,2-Dichloroethene | ND | | ug/l | 5.0 | 1.4 | 2 |

**Project Name:** FESL **Lab Number:** L2100020

**Project Number:** 20029 **Report Date:** 01/11/21

## SAMPLE RESULTS

Lab ID: L2100020-03 D
Client ID: TARGET 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:02
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| Trichloroethene | ND | | ug/l | 1.0 | 0.35 | 2 |
| 1,2-Dichlorobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,3-Dichlorobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,4-Dichlorobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Methyl tert butyl ether | ND | | ug/l | 5.0 | 1.4 | 2 |
| p/m-Xylene | 7.2 | | ug/l | 5.0 | 1.4 | 2 |
| o-Xylene | 2.3 | J | ug/l | 5.0 | 1.4 | 2 |
| Xylenes, Total | 9.5 | J | ug/l | 5.0 | 1.4 | 2 |
| cis-1,2-Dichloroethene | 11 | | ug/l | 5.0 | 1.4 | 2 |
| 1,2-Dichloroethene, Total | 11 | | ug/l | 5.0 | 1.4 | 2 |
| Dibromomethane | ND | | ug/l | 10 | 2.0 | 2 |
| 1,2,3-Trichloropropane | ND | | ug/l | 5.0 | 1.4 | 2 |
| Acrylonitrile | ND | | ug/l | 10 | 3.0 | 2 |
| Styrene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Dichlorodifluoromethane | ND | | ug/l | 10 | 2.0 | 2 |
| Acetone | 6.7 | J | ug/l | 10 | 2.9 | 2 |
| Carbon disulfide | ND | | ug/l | 10 | 2.0 | 2 |
| 2-Butanone | 4.8 | J | ug/l | 10 | 3.9 | 2 |
| Vinyl acetate | ND | | ug/l | 10 | 2.0 | 2 |
| 4-Methyl-2-pentanone | ND | | ug/l | 10 | 2.0 | 2 |
| 2-Hexanone | ND | | ug/l | 10 | 2.0 | 2 |
| Bromochloromethane | ND | | ug/l | 5.0 | 1.4 | 2 |
| 2,2-Dichloropropane | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,2-Dibromoethane | ND | | ug/l | 4.0 | 1.3 | 2 |
| 1,3-Dichloropropane | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 5.0 | 1.4 | 2 |
| Bromobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| n-Butylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| sec-Butylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| tert-Butylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| o-Chlorotoluene | ND | | ug/l | 5.0 | 1.4 | 2 |
| p-Chlorotoluene | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 5.0 | 1.4 | 2 |
| Hexachlorobutadiene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Isopropylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| p-Isopropyltoluene | ND | | ug/l | 5.0 | 1.4 | 2 |
| Naphthalene | ND | | ug/l | 5.0 | 1.4 | 2 |

**Project Name:** FESL **Lab Number:** L2100020

**Project Number:** 20029 **Report Date:** 01/11/21

## SAMPLE RESULTS

Lab ID: L2100020-03 D
Client ID: TARGET 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:02
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor |
|---|---|---|---|---|---|---|
| **Volatile Organics by GC/MS - Westborough Lab** | | | | | | |
| n-Propylbenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,2,3-Trichlorobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,2,4-Trichlorobenzene | ND | | ug/l | 5.0 | 1.4 | 2 |
| 1,3,5-Trimethylbenzene | 3.3 | J | ug/l | 5.0 | 1.4 | 2 |
| 1,2,4-Trimethylbenzene | 5.9 | | ug/l | 5.0 | 1.4 | 2 |
| 1,4-Dioxane | 300 | J | ug/l | 500 | 120 | 2 |
| Freon-113 | ND | | ug/l | 5.0 | 1.4 | 2 |
| p-Diethylbenzene | 1.6 | J | ug/l | 4.0 | 1.4 | 2 |
| p-Ethyltoluene | 3.0 | J | ug/l | 4.0 | 1.4 | 2 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 4.0 | 1.1 | 2 |
| Ethyl ether | 9.0 | | ug/l | 5.0 | 1.4 | 2 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 5.0 | 1.4 | 2 |

| Surrogate | % Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97 | | 70-130 |
| Toluene-d8 | 100 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| Dibromofluoromethane | 105 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/06/21 15:47
Analyst: MKS

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1452609-5 | | | | | |
| 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 |
| 1,3-Dichloropropene, Total | ND | | ug/l | 0.50 | 0.14 |
| 1,1-Dichloropropene | ND | | ug/l | 2.5 | 0.70 |
| 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 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/06/21 15:47
Analyst: MKS

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1452609-5 | | | | | |
| 1,2-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 1,3-Dichlorobenzene | ND | | ug/l | 2.5 | 0.70 |
| 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 |
| Xylenes, Total | ND | | ug/l | 2.5 | 0.70 |
| cis-1,2-Dichloroethene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dichloroethene, Total | ND | | ug/l | 2.5 | 0.70 |
| Dibromomethane | ND | | ug/l | 5.0 | 1.0 |
| 1,2,3-Trichloropropane | ND | | ug/l | 2.5 | 0.70 |
| Acrylonitrile | ND | | ug/l | 5.0 | 1.5 |
| 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 |
| Vinyl acetate | ND | | ug/l | 5.0 | 1.0 |
| 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 |
| 2,2-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromoethane | ND | | ug/l | 2.0 | 0.65 |
| 1,3-Dichloropropane | ND | | ug/l | 2.5 | 0.70 |
| 1,1,1,2-Tetrachloroethane | ND | | ug/l | 2.5 | 0.70 |
| Bromobenzene | ND | | ug/l | 2.5 | 0.70 |
| n-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| sec-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |
| tert-Butylbenzene | ND | | ug/l | 2.5 | 0.70 |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2100020
**Report Date:** 01/11/21

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/06/21 15:47
Analyst: MKS

| Parameter | Result | Qualifier | Units | RL | MDL |
|---|---|---|---|---|---|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1452609-5 | | | | | |
| o-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| p-Chlorotoluene | ND | | ug/l | 2.5 | 0.70 |
| 1,2-Dibromo-3-chloropropane | ND | | ug/l | 2.5 | 0.70 |
| Hexachlorobutadiene | ND | | ug/l | 2.5 | 0.70 |
| Isopropylbenzene | ND | | ug/l | 2.5 | 0.70 |
| p-Isopropyltoluene | ND | | ug/l | 2.5 | 0.70 |
| Naphthalene | 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 |
| 1,4-Dioxane | ND | | ug/l | 250 | 61. |
| Freon-113 | ND | | ug/l | 2.5 | 0.70 |
| p-Diethylbenzene | ND | | ug/l | 2.0 | 0.70 |
| p-Ethyltoluene | ND | | ug/l | 2.0 | 0.70 |
| 1,2,4,5-Tetramethylbenzene | ND | | ug/l | 2.0 | 0.54 |
| Ethyl ether | ND | | ug/l | 2.5 | 0.70 |
| trans-1,4-Dichloro-2-butene | ND | | ug/l | 2.5 | 0.70 |

| Surrogate | %Recovery | Qualifier | Acceptance Criteria |
|---|---|---|---|
| 1,2-Dichloroethane-d4 | 104 | | 70-130 |
| Toluene-d8 | 99 | | 70-130 |
| 4-Bromofluorobenzene | 94 | | 70-130 |
| Dibromofluoromethane | 100 | | 70-130 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

# Method Blank Analysis
## Batch Quality Control

Analytical Method: 117,-
Analytical Date: 01/08/21 07:24
Analyst: AW

| Parameter | Result | Qualifier | Units | RL | MDL | |
|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab for sample(s): 01-03 Batch: WG1452916-3 | | | | | | |
| Methane | ND | | ug/l | 2.00 | 2.00 | A |
| Ethene | ND | | ug/l | 0.500 | 0.500 | A |
| Ethane | ND | | ug/l | 0.500 | 0.500 | A |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

| 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: WG1452609-3 WG1452609-4 | | | | | | | | |
| Methylene chloride | 93 | | 95 | | 70-130 | 2 | | 20 |
| 1,1-Dichloroethane | 79 | | 82 | | 70-130 | 4 | | 20 |
| Chloroform | 99 | | 100 | | 70-130 | 1 | | 20 |
| Carbon tetrachloride | 100 | | 110 | | 63-132 | 10 | | 20 |
| 1,2-Dichloropropane | 79 | | 78 | | 70-130 | 1 | | 20 |
| Dibromochloromethane | 99 | | 97 | | 63-130 | 2 | | 20 |
| 1,1,2-Trichloroethane | 96 | | 98 | | 70-130 | 2 | | 20 |
| Tetrachloroethene | 95 | | 100 | | 70-130 | 5 | | 20 |
| Chlorobenzene | 94 | | 96 | | 75-130 | 2 | | 20 |
| Trichlorofluoromethane | 110 | | 120 | | 62-150 | 9 | | 20 |
| 1,2-Dichloroethane | 90 | | 88 | | 70-130 | 2 | | 20 |
| 1,1,1-Trichloroethane | 97 | | 100 | | 67-130 | 3 | | 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 |
| 1,1-Dichloropropene | 100 | | 100 | | 70-130 | 0 | | 20 |
| Bromoform | 99 | | 91 | | 54-136 | 8 | | 20 |
| 1,1,2,2-Tetrachloroethane | 91 | | 86 | | 67-130 | 6 | | 20 |
| Benzene | 96 | | 97 | | 70-130 | 1 | | 20 |
| Toluene | 88 | | 91 | | 70-130 | 3 | | 20 |
| Ethylbenzene | 92 | | 94 | | 70-130 | 2 | | 20 |
| Chloromethane | 68 | | 68 | | 64-130 | 0 | | 20 |
| Bromomethane | 120 | | 120 | | 39-139 | 0 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

| 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: WG1452609-3 WG1452609-4 | | | | | | | | |
| Vinyl chloride | 82 | | 85 | | 55-140 | 4 | | 20 |
| Chloroethane | 91 | | 95 | | 55-138 | 4 | | 20 |
| 1,1-Dichloroethene | 90 | | 94 | | 61-145 | 4 | | 20 |
| trans-1,2-Dichloroethene | 88 | | 93 | | 70-130 | 6 | | 20 |
| Trichloroethene | 87 | | 93 | | 70-130 | 7 | | 20 |
| 1,2-Dichlorobenzene | 88 | | 88 | | 70-130 | 0 | | 20 |
| 1,3-Dichlorobenzene | 89 | | 86 | | 70-130 | 3 | | 20 |
| 1,4-Dichlorobenzene | 89 | | 87 | | 70-130 | 2 | | 20 |
| Methyl tert butyl ether | 100 | | 100 | | 63-130 | 0 | | 20 |
| p/m-Xylene | 100 | | 105 | | 70-130 | 5 | | 20 |
| o-Xylene | 100 | | 105 | | 70-130 | 5 | | 20 |
| cis-1,2-Dichloroethene | 90 | | 95 | | 70-130 | 5 | | 20 |
| Dibromomethane | 93 | | 90 | | 70-130 | 3 | | 20 |
| 1,2,3-Trichloropropane | 96 | | 95 | | 64-130 | 1 | | 20 |
| Acrylonitrile | 71 | | **66** | Q | 70-130 | 7 | | 20 |
| Styrene | 105 | | 105 | | 70-130 | 0 | | 20 |
| Dichlorodifluoromethane | 110 | | 110 | | 36-147 | 0 | | 20 |
| Acetone | 70 | | 70 | | 58-148 | 0 | | 20 |
| Carbon disulfide | 94 | | 99 | | 51-130 | 5 | | 20 |
| 2-Butanone | 72 | | 74 | | 63-138 | 3 | | 20 |
| Vinyl acetate | 83 | | 82 | | 70-130 | 1 | | 20 |
| 4-Methyl-2-pentanone | 77 | | 72 | | 59-130 | 7 | | 20 |
| 2-Hexanone | 76 | | 75 | | 57-130 | 1 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

| 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: WG1452609-3 WG1452609-4 | | | | | | | | |
| Bromochloromethane | 97 | | 100 | | 70-130 | 3 | | 20 |
| 2,2-Dichloropropane | 110 | | 110 | | 63-133 | 0 | | 20 |
| 1,2-Dibromoethane | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,3-Dichloropropane | 94 | | 92 | | 70-130 | 2 | | 20 |
| 1,1,1,2-Tetrachloroethane | 100 | | 99 | | 64-130 | 1 | | 20 |
| Bromobenzene | 88 | | 89 | | 70-130 | 1 | | 20 |
| n-Butylbenzene | 84 | | 88 | | 53-136 | 5 | | 20 |
| sec-Butylbenzene | 87 | | 91 | | 70-130 | 4 | | 20 |
| tert-Butylbenzene | 87 | | 89 | | 70-130 | 2 | | 20 |
| o-Chlorotoluene | 86 | | 88 | | 70-130 | 2 | | 20 |
| p-Chlorotoluene | 86 | | 85 | | 70-130 | 1 | | 20 |
| 1,2-Dibromo-3-chloropropane | 87 | | 86 | | 41-144 | 1 | | 20 |
| Hexachlorobutadiene | 89 | | 89 | | 63-130 | 0 | | 20 |
| Isopropylbenzene | 89 | | 90 | | 70-130 | 1 | | 20 |
| p-Isopropyltoluene | 88 | | 91 | | 70-130 | 3 | | 20 |
| Naphthalene | 86 | | 84 | | 70-130 | 2 | | 20 |
| n-Propylbenzene | 85 | | 87 | | 69-130 | 2 | | 20 |
| 1,2,3-Trichlorobenzene | 94 | | 91 | | 70-130 | 3 | | 20 |
| 1,2,4-Trichlorobenzene | 94 | | 94 | | 70-130 | 0 | | 20 |
| 1,3,5-Trimethylbenzene | 92 | | 93 | | 64-130 | 1 | | 20 |
| 1,2,4-Trimethylbenzene | 92 | | 93 | | 70-130 | 1 | | 20 |
| 1,4-Dioxane | 124 | | 116 | | 56-162 | 7 | | 20 |
| Freon-113 | 100 | | 110 | | 70-130 | 10 | | 20 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

| 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: WG1452609-3 WG1452609-4 | | | | | | | | |
| p-Diethylbenzene | 87 | | 89 | | 70-130 | 2 | | 20 |
| p-Ethyltoluene | 90 | | 91 | | 70-130 | 1 | | 20 |
| 1,2,4,5-Tetramethylbenzene | 92 | | 90 | | 70-130 | 2 | | 20 |
| Ethyl ether | 94 | | 94 | | 59-134 | 0 | | 20 |
| trans-1,4-Dichloro-2-butene | 72 | | 72 | | 70-130 | 0 | | 20 |

| Surrogate | LCS %Recovery | Qual | LCSD %Recovery | Qual | Acceptance Criteria |
|---|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 110 | | 109 | | 70-130 |
| Toluene-d8 | 101 | | 101 | | 70-130 |
| 4-Bromofluorobenzene | 92 | | 91 | | 70-130 |
| Dibromofluoromethane | 107 | | 106 | | 70-130 |

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|---|---|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01-03 Batch: WG1452916-2 | | | | | | | | | |
| Methane | 98 | | - | | 80-120 | - | | 25 | A |
| Ethene | 86 | | - | | 80-120 | - | | 25 | A |
| Ethane | 86 | | - | | 80-120 | - | | 25 | A |

# Matrix Spike Analysis

***Batch Quality Control***

***Project Name:*** FESL

***Project Number:*** 20029

***Lab Number:*** L2100020

***Report Date:*** 01/11/21

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits | Column |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dissolved Gases by GC - Mansfield Lab | Associated sample(s): 01-03 | QC Batch ID: WG1452916-5 | QC Sample: L2100020-01 | Client ID: CTRL 4 FEET DUP | | | | | | | | | |
| Methane | 2.64 | 54.6 | 45.5 | **78** | Q | - | - | | 80-120 | - | | 25 | A |
| Ethene | 6.85 | 95.5 | 75.8 | **72** | Q | - | - | | 80-120 | - | | 25 | A |
| Ethane | 1.32 | 102 | 73.6 | **71** | Q | - | - | | 80-120 | - | | 25 | A |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

## SAMPLE RESULTS

Lab ID: L2100020-01
Client ID: CTRL 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:00
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab | | | | | | | | | | |
| Alkalinity, Total | 943. | | mg CaCO3/L | 5.00 | NA | 2.5 | - | 01/06/21 11:47 | 121,2320B | JB |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

## SAMPLE RESULTS

Lab ID: L2100020-02
Client ID: FLOW 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:01
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Alkalinity, Total | 723. | | mg CaCO3/L | 4.00 | NA | 2 | - | 01/06/21 11:47 | 121,2320B | JB |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

## SAMPLE RESULTS

Lab ID: L2100020-03
Client ID: TARGET 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 12/30/20 19:02
Date Received: 01/04/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Alkalinity, Total | 643. | | mg CaCO3/L | 4.00 | NA | 2 | - | 01/06/21 11:47 | 121,2320B | JB |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

# Method Blank Analysis
## Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1452167-1 | | | | | | | | | | |
| Alkalinity, Total | ND | | mg CaCO3/L | 2.00 | NA | 1 | - | 01/06/21 11:47 | 121,2320B | JB |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL

**Project Number:** 20029

**Lab Number:** L2100020

**Report Date:** 01/11/21

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1452167-2 | | | | | | | | |
| Alkalinity, Total | 103 | | - | | 90-110 | - | | 10 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1452167-4 QC Sample: L2058235-06 Client ID: MS Sample | | | | | | | | | | | | |
| Alkalinity, Total | 21.2 | 100 | 133 | 112 | | - | - | | 86-116 | - | | 10 |

# Lab Duplicate Analysis

***Batch Quality Control***

**Project Name:** FESL

**Project Number:** 20029

***Lab Number:*** L2100020

***Report Date:*** 01/11/21

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1452167-3 QC Sample: L2058235-06 Client ID: DUP Sample | | | | | | |
| Alkalinity, Total | 21.2 | 20.6 | mg CaCO3/L | 3 | | 10 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

## 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(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2100020-01A | 20ml Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | DISSGAS(14) |
| L2100020-01B | 20ml Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | DISSGAS(14) |
| L2100020-01C | Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | NYTCL-8260(14) |
| L2100020-01D | Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | NYTCL-8260(14) |
| L2100020-01E | Plastic 250ml unpreserved/No Headspace | A | NA | | 2.5 | Y | Absent | | ALK-T-2320(14) |
| L2100020-02A | 20ml Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | DISSGAS(14) |
| L2100020-02B | 20ml Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | DISSGAS(14) |
| L2100020-02C | Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | NYTCL-8260(14) |
| L2100020-02D | Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | NYTCL-8260(14) |
| L2100020-02E | Plastic 250ml unpreserved/No Headspace | A | NA | | 2.5 | Y | Absent | | ALK-T-2320(14) |
| L2100020-03A | 20ml Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | DISSGAS(14) |
| L2100020-03B | 20ml Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | DISSGAS(14) |
| L2100020-03C | Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | NYTCL-8260(14) |
| L2100020-03D | Vial HCl preserved | A | NA | | 2.5 | Y | Absent | | NYTCL-8260(14) |
| L2100020-03E | Plastic 250ml unpreserved/No Headspace | A | NA | | 2.5 | Y | Absent | | ALK-T-2320(14) |

### Container Comments

| | |
|---|---|
| L2100020-01A | Label Time: 8:00 MW 1/4/21 |
| L2100020-01B | Label Time: 8:00 MW 1/4/21 |
| L2100020-02A | Label Time: 8:01 MW 1/4/21 |
| L2100020-02B | Label Time: 8:01 MW 1/4/21 |



*Values in parentheses indicate holding time in days

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100020
**Report Date:** 01/11/21

**Container Information**

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

**Container Comments**

L2100020-03A Label Time: 8:02 MW 1/4/21

L2100020-03B Label Time: 8:02 MW 1/4/21



*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2100020 |
| **Project Number:** | 20029 | **Report Date:** | 01/11/21 |

## GLOSSARY

***Acronyms***

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2100020 |
| **Project Number:** | 20029 | **Report Date:** | 01/11/21 |

***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.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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.

**F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

**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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2100020 |
| **Project Number:** | 20029 | **Report Date:** | 01/11/21 |

***Data Qualifiers***

**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.

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2100020 |
| **Project Number:** | 20029 | **Report Date:** | 01/11/21 |

## REFERENCES


1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

117 Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, EPA-NE, Revision 1, February 21, 2002 and Sample Preparation & Calculations for Dissolved Gas Analysis in Water Samples using a GC Headspace Equilibration Technique, EPA RSKSOP-175, Revision 2, May 2004.

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


## LIMITATION OF LIABILITIES

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

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

# Certification Information

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

**Westborough Facility**
**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene
**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.
**EPA TO-12** Non-methane organics
**EPA 3C** Fixed gases
**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.

ALPHA ANALYTICAL

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8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
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# NEW JERSEY 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: 1/4/21

ALPHA Job #: L2100020

## Client Information

Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

## Project Information

Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12788

## Turn-Around Time

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

## Deliverables

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

## Regulatory Requirement

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

## Billing Information

☑ Same as Client Info
PO # 4715

## Site Information

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

These samples have been previously analyzed by Alpha ☐

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com

please include Freon-113; all other analyses standard TAT;
please copy bjoy@xdd-llc.com and marley@xdd-llc.com on results

## ANALYSIS

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | VOCs | Dissolved Gases | Alkalinity | Sulfate | Dissolved Metals | | | | Sample Specific Comments | Total Bottle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L2100020 -01 | Ctrl 4 feet Dup | 12/30/2020 | 19:00 | GW | BJ | x | X | X | | | | | | | 2 |
| -02 | Flow 4 feet Dup | 12/30/2020 | 19:01 | GW | BJ | x | X | X | | | | | | | 2 |
| -03 | Target 4 feet Dup | 12/30/2020 | 19:02 | GW | BJ | x | X | X | | | | | | | 2 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
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**Sample Filtration**
☐ Done
☐ Lab to do
***Preservation***
☐ Lab to do
***(Please Specify below)***

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Container Type | G | G | P | P | | | | |
| Preservative | B | B | A | A | | | | |

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

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

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

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 1/4/21 10:30 | [illegible] LaRoche | 1/4/21 10:30 |
| [illegible] LaRoche | 1/4/21 1610 | | 1/4/21 1610 |
| | 1/4/21 1850 | | 1/4/21 1852 |

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.

Form No: 01-14 (rev. 30-Sept-2013)

# ANALYTICAL REPORT

| | |
|---|---|
| Lab Number: | L2100688 |
| Client: | XDD Environmental<br>Mary Scudieri<br>22 Marin Way Unit 3<br>Stratham, NH 03885 |
| ATTN: | Laurel Crawford |
| Phone: | (603) 778-1100 |
| Project Name: | FESL |
| Project Number: | 20029 |
| Report Date: | 01/18/21 |



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:** FESL
**Project Number:** 20029

**Lab Number:** L2100688
**Report Date:** 01/18/21

| Alpha Sample ID | Client ID | Matrix | Sample Location | Collection Date/Time | Receive Date |
|---|---|---|---|---|---|
| L2100688-01 | CTRL 4 FEET DUP | WATER | ROCHESTER, NY | 01/04/21 16:00 | 01/07/21 |
| L2100688-02 | FLOW 4 FEET DUP | WATER | ROCHESTER, NY | 01/04/21 16:01 | 01/07/21 |
| L2100688-03 | TARGET 4 FEET DUP | WATER | ROCHESTER, NY | 01/04/21 16:02 | 01/07/21 |
| L2100688-04 | CTRL 4 FEET DUP | WATER | ROCHESTER, NY | 01/07/21 08:40 | 01/07/21 |
| L2100688-05 | FLOW 4 FEET DUP | WATER | ROCHESTER, NY | 01/07/21 08:45 | 01/07/21 |
| L2100688-06 | TARGET 4 FEET DUP | WATER | ROCHESTER, NY | 01/07/21 08:50 | 01/07/21 |

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2100688 |
| **Project Number:** | 20029 | **Report Date:** | 01/18/21 |

## 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:** | FESL | **Lab Number:** | L2100688 |
| **Project Number:** | 20029 | **Report Date:** | 01/18/21 |

**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.

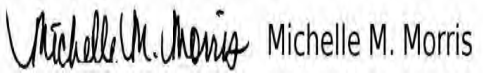
Sample Receipt

L2100688-05 and -06: The sample was received above the appropriate pH for the Dissolved Metals analysis. The laboratory added additional HNO3 to a pH <2.

Dissolved Metals

The WG1452977-3 MS recoveries for calcium (260%), magnesium (210%), potassium (273%), and sodium (620%), performed on L2100688-04, 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:  Michelle M. Morris

Title: Technical Director/Representative Date: 01/18/21

# METALS

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2100688
**Report Date:** 01/18/21

## SAMPLE RESULTS

Lab ID: L2100688-04
Client ID: CTRL 4 FEET DUP
Sample Location: ROCHESTER, NY
Date Collected: 01/07/21 08:40
Date Received: 01/07/21
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dissolved Metals - Mansfield Lab** | | | | | | | | | | | |
| Aluminum, Dissolved | 0.00918 | J | mg/l | 0.0100 | 0.00327 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Antimony, Dissolved | 0.00087 | J | mg/l | 0.00400 | 0.00042 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Arsenic, Dissolved | 0.01440 | | mg/l | 0.00050 | 0.00016 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Barium, Dissolved | 0.1511 | | mg/l | 0.00050 | 0.00017 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Beryllium, Dissolved | ND | | mg/l | 0.00050 | 0.00010 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Cadmium, Dissolved | ND | | mg/l | 0.00020 | 0.00005 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Calcium, Dissolved | 128. | | mg/l | 0.100 | 0.0394 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Chromium, Dissolved | 0.00069 | J | mg/l | 0.00100 | 0.00017 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Cobalt, Dissolved | 0.00541 | | mg/l | 0.00050 | 0.00016 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Copper, Dissolved | 0.00130 | | mg/l | 0.00100 | 0.00038 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Iron, Dissolved | 0.0396 | J | mg/l | 0.0500 | 0.0191 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Lead, Dissolved | 0.01116 | | mg/l | 0.00100 | 0.00034 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Magnesium, Dissolved | 51.7 | | mg/l | 0.0700 | 0.0242 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Manganese, Dissolved | 0.00726 | | mg/l | 0.00100 | 0.00044 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Mercury, Dissolved | ND | | mg/l | 0.00020 | 0.00009 | 1 | 01/08/21 10:00 | 01/15/21 14:32 | EPA 7470A | 1,7470A | VW |
| Nickel, Dissolved | 0.09026 | | mg/l | 0.00200 | 0.00055 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Potassium, Dissolved | 96.7 | | mg/l | 0.100 | 0.0309 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Selenium, Dissolved | ND | | mg/l | 0.00500 | 0.00173 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Silver, Dissolved | ND | | mg/l | 0.00040 | 0.00016 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Sodium, Dissolved | 347. | | mg/l | 0.100 | 0.0293 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Thallium, Dissolved | 0.00066 | J | mg/l | 0.00100 | 0.00014 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Vanadium, Dissolved | ND | | mg/l | 0.00500 | 0.00157 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |
| Zinc, Dissolved | 0.01466 | | mg/l | 0.01000 | 0.00341 | 1 | 01/08/21 09:56 | 01/08/21 14:02 | EPA 3005A | 1,6020B | AM |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2100688
**Report Date:** 01/18/21

## SAMPLE RESULTS

Lab ID: L2100688-05
Client ID: FLOW 4 FEET DUP
Sample Location: ROCHESTER, NY
Date Collected: 01/07/21 08:45
Date Received: 01/07/21
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dissolved Metals - Mansfield Lab** | | | | | | | | | | | |
| Aluminum, Dissolved | 0.00416 | J | mg/l | 0.0100 | 0.00327 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Antimony, Dissolved | 0.00063 | J | mg/l | 0.00400 | 0.00042 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Arsenic, Dissolved | 0.00114 | | mg/l | 0.00050 | 0.00016 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Barium, Dissolved | 0.03226 | | mg/l | 0.00050 | 0.00017 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Beryllium, Dissolved | ND | | mg/l | 0.00050 | 0.00010 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Cadmium, Dissolved | ND | | mg/l | 0.00020 | 0.00005 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Calcium, Dissolved | 7.51 | | mg/l | 0.100 | 0.0394 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Chromium, Dissolved | ND | | mg/l | 0.00100 | 0.00017 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Cobalt, Dissolved | 0.00097 | | mg/l | 0.00050 | 0.00016 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Copper, Dissolved | 0.00095 | J | mg/l | 0.00100 | 0.00038 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Iron, Dissolved | 0.0704 | | mg/l | 0.0500 | 0.0191 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Lead, Dissolved | ND | | mg/l | 0.00100 | 0.00034 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Magnesium, Dissolved | 57.6 | | mg/l | 0.0700 | 0.0242 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Manganese, Dissolved | 0.00670 | | mg/l | 0.00100 | 0.00044 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Mercury, Dissolved | ND | | mg/l | 0.00020 | 0.00009 | 1 | 01/08/21 10:00 | 01/15/21 14:22 | EPA 7470A | 1,7470A | VW |
| Nickel, Dissolved | 0.00338 | | mg/l | 0.00200 | 0.00055 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Potassium, Dissolved | 93.3 | | mg/l | 0.100 | 0.0309 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Selenium, Dissolved | ND | | mg/l | 0.00500 | 0.00173 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Silver, Dissolved | ND | | mg/l | 0.00040 | 0.00016 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Sodium, Dissolved | 350. | | mg/l | 0.100 | 0.0293 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Thallium, Dissolved | 0.00016 | J | mg/l | 0.00100 | 0.00014 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Vanadium, Dissolved | ND | | mg/l | 0.00500 | 0.00157 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |
| Zinc, Dissolved | ND | | mg/l | 0.01000 | 0.00341 | 1 | 01/08/21 09:56 | 01/08/21 14:07 | EPA 3005A | 1,6020B | AM |

**Project Name:** FESL
**Project Number:** 20029
**Lab Number:** L2100688
**Report Date:** 01/18/21

## SAMPLE RESULTS

Lab ID: L2100688-06
Client ID: TARGET 4 FEET DUP
Sample Location: ROCHESTER, NY
Date Collected: 01/07/21 08:50
Date Received: 01/07/21
Field Prep: Refer to COC

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Prep Method | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dissolved Metals - Mansfield Lab** | | | | | | | | | | | |
| Aluminum, Dissolved | 0.00426 | J | mg/l | 0.0100 | 0.00327 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Antimony, Dissolved | ND | | mg/l | 0.00400 | 0.00042 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Arsenic, Dissolved | 0.00088 | | mg/l | 0.00050 | 0.00016 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Barium, Dissolved | 0.01213 | | mg/l | 0.00050 | 0.00017 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Beryllium, Dissolved | ND | | mg/l | 0.00050 | 0.00010 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Cadmium, Dissolved | ND | | mg/l | 0.00020 | 0.00005 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Calcium, Dissolved | 2.41 | | mg/l | 0.100 | 0.0394 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Chromium, Dissolved | ND | | mg/l | 0.00100 | 0.00017 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Cobalt, Dissolved | 0.00062 | | mg/l | 0.00050 | 0.00016 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Copper, Dissolved | 0.00066 | J | mg/l | 0.00100 | 0.00038 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Iron, Dissolved | 0.0208 | J | mg/l | 0.0500 | 0.0191 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Lead, Dissolved | ND | | mg/l | 0.00100 | 0.00034 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Magnesium, Dissolved | 45.0 | | mg/l | 0.0700 | 0.0242 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Manganese, Dissolved | 0.01371 | | mg/l | 0.00100 | 0.00044 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Mercury, Dissolved | ND | | mg/l | 0.00020 | 0.00009 | 1 | 01/08/21 10:00 | 01/15/21 14:35 | EPA 7470A | 1,7470A | VW |
| Nickel, Dissolved | 0.00254 | | mg/l | 0.00200 | 0.00055 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Potassium, Dissolved | 78.9 | | mg/l | 0.100 | 0.0309 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Selenium, Dissolved | ND | | mg/l | 0.00500 | 0.00173 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Silver, Dissolved | ND | | mg/l | 0.00040 | 0.00016 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Sodium, Dissolved | 350. | | mg/l | 0.100 | 0.0293 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Thallium, Dissolved | ND | | mg/l | 0.00100 | 0.00014 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Vanadium, Dissolved | ND | | mg/l | 0.00500 | 0.00157 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |
| Zinc, Dissolved | ND | | mg/l | 0.01000 | 0.00341 | 1 | 01/08/21 09:56 | 01/08/21 14:12 | EPA 3005A | 1,6020B | AM |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100688
**Report Date:** 01/18/21

# Method Blank Analysis
# Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab for sample(s): 04-06 Batch: WG1452977-1 | | | | | | | | | | |
| Aluminum, Dissolved | ND | | mg/l | 0.0100 | 0.00327 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Antimony, Dissolved | ND | | mg/l | 0.00400 | 0.00042 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Arsenic, Dissolved | ND | | mg/l | 0.00050 | 0.00016 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Barium, Dissolved | ND | | mg/l | 0.00050 | 0.00017 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Beryllium, Dissolved | ND | | mg/l | 0.00050 | 0.00010 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Cadmium, Dissolved | ND | | mg/l | 0.00020 | 0.00005 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Calcium, Dissolved | ND | | mg/l | 0.100 | 0.0394 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Chromium, Dissolved | ND | | mg/l | 0.00100 | 0.00017 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Cobalt, Dissolved | ND | | mg/l | 0.00050 | 0.00016 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Copper, Dissolved | ND | | mg/l | 0.00100 | 0.00038 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Iron, Dissolved | ND | | mg/l | 0.0500 | 0.0191 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Lead, Dissolved | ND | | mg/l | 0.00100 | 0.00034 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Magnesium, Dissolved | ND | | mg/l | 0.0700 | 0.0242 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Manganese, Dissolved | ND | | mg/l | 0.00100 | 0.00044 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Nickel, Dissolved | ND | | mg/l | 0.00200 | 0.00055 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Potassium, Dissolved | ND | | mg/l | 0.100 | 0.0309 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Selenium, Dissolved | ND | | mg/l | 0.00500 | 0.00173 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Silver, Dissolved | ND | | mg/l | 0.00040 | 0.00016 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Sodium, Dissolved | ND | | mg/l | 0.100 | 0.0293 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Thallium, Dissolved | ND | | mg/l | 0.00100 | 0.00014 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Vanadium, Dissolved | ND | | mg/l | 0.00500 | 0.00157 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |
| Zinc, Dissolved | ND | | mg/l | 0.01000 | 0.00341 | 1 | 01/08/21 09:56 | 01/08/21 13:37 | 1,6020B | AM |

**Prep Information**

Digestion Method: EPA 3005A

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab for sample(s): 04-06 Batch: WG1452979-1 | | | | | | | | | | |
| Mercury, Dissolved | ND | | mg/l | 0.00020 | 0.00009 | 1 | 01/08/21 10:00 | 01/15/21 14:15 | 1,7470A | VW |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100688
**Report Date:** 01/18/21

# Method Blank Analysis
# Batch Quality Control

**Prep Information**

Digestion Method: EPA 7470A

# Lab Control Sample Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100688
**Report Date:** 01/18/21

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab Associated sample(s): 04-06 Batch: WG1452977-2 | | | | | | | | |
| Aluminum, Dissolved | 102 | | - | | 80-120 | - | | |
| Antimony, Dissolved | 81 | | - | | 80-120 | - | | |
| Arsenic, Dissolved | 102 | | - | | 80-120 | - | | |
| Barium, Dissolved | 100 | | - | | 80-120 | - | | |
| Beryllium, Dissolved | 102 | | - | | 80-120 | - | | |
| Cadmium, Dissolved | 106 | | - | | 80-120 | - | | |
| Calcium, Dissolved | 104 | | - | | 80-120 | - | | |
| Chromium, Dissolved | 97 | | - | | 80-120 | - | | |
| Cobalt, Dissolved | 97 | | - | | 80-120 | - | | |
| Copper, Dissolved | 98 | | - | | 80-120 | - | | |
| Iron, Dissolved | 105 | | - | | 80-120 | - | | |
| Lead, Dissolved | 102 | | - | | 80-120 | - | | |
| Magnesium, Dissolved | 106 | | - | | 80-120 | - | | |
| Manganese, Dissolved | 98 | | - | | 80-120 | - | | |
| Nickel, Dissolved | 95 | | - | | 80-120 | - | | |
| Potassium, Dissolved | 106 | | - | | 80-120 | - | | |
| Selenium, Dissolved | 105 | | - | | 80-120 | - | | |
| Silver, Dissolved | 100 | | - | | 80-120 | - | | |
| Sodium, Dissolved | 105 | | - | | 80-120 | - | | |
| Thallium, Dissolved | 101 | | - | | 80-120 | - | | |
| Vanadium, Dissolved | 97 | | - | | 80-120 | - | | |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL

**Project Number:** 20029

**Lab Number:** L2100688

**Report Date:** 01/18/21

| Parameter | LCS %Recovery | LCSD %Recovery | %Recovery Limits | RPD | RPD Limits |
|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab Associated sample(s): 04-06 Batch: WG1452977-2 | | | | | |
| Zinc, Dissolved | 106 | - | 80-120 | - | |
| Dissolved Metals - Mansfield Lab Associated sample(s): 04-06 Batch: WG1452979-2 | | | | | |
| Mercury, Dissolved | 101 | - | 80-120 | - | |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100688
**Report Date:** 01/18/21

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG1452977-3 QC Sample: L2100688-04 Client ID: CTRL 4 FEET DUP | | | | | | | | | | | | |
| Aluminum, Dissolved | 0.00918J | 2 | 2.09 | 104 | | - | - | | 75-125 | - | | 20 |
| Antimony, Dissolved | 0.00087J | 0.5 | 0.5410 | 108 | | - | - | | 75-125 | - | | 20 |
| Arsenic, Dissolved | 0.01440 | 0.12 | 0.1457 | 109 | | - | - | | 75-125 | - | | 20 |
| Barium, Dissolved | 0.1511 | 2 | 2.265 | 106 | | - | - | | 75-125 | - | | 20 |
| Beryllium, Dissolved | ND | 0.05 | 0.05237 | 105 | | - | - | | 75-125 | - | | 20 |
| Cadmium, Dissolved | ND | 0.051 | 0.05491 | 108 | | - | - | | 75-125 | - | | 20 |
| Calcium, Dissolved | 128. | 10 | 154 | **260** | Q | - | - | | 75-125 | - | | 20 |
| Chromium, Dissolved | 0.00069J | 0.2 | 0.2025 | 101 | | - | - | | 75-125 | - | | 20 |
| Cobalt, Dissolved | 0.00541 | 0.5 | 0.5069 | 100 | | - | - | | 75-125 | - | | 20 |
| Copper, Dissolved | 0.00130 | 0.25 | 0.2534 | 101 | | - | - | | 75-125 | - | | 20 |
| Iron, Dissolved | 0.0396J | 1 | 1.07 | 107 | | - | - | | 75-125 | - | | 20 |
| Lead, Dissolved | 0.01116 | 0.51 | 0.5549 | 107 | | - | - | | 75-125 | - | | 20 |
| Magnesium, Dissolved | 51.7 | 10 | 72.7 | **210** | Q | - | - | | 75-125 | - | | 20 |
| Manganese, Dissolved | 0.00726 | 0.5 | 0.5059 | 100 | | - | - | | 75-125 | - | | 20 |
| Nickel, Dissolved | 0.09026 | 0.5 | 0.5824 | 98 | | - | - | | 75-125 | - | | 20 |
| Potassium, Dissolved | 96.7 | 10 | 124 | **273** | Q | - | - | | 75-125 | - | | 20 |
| Selenium, Dissolved | ND | 0.12 | 0.130 | 108 | | - | - | | 75-125 | - | | 20 |
| Silver, Dissolved | ND | 0.05 | 0.05178 | 104 | | - | - | | 75-125 | - | | 20 |
| Sodium, Dissolved | 347. | 10 | 409 | **620** | Q | - | - | | 75-125 | - | | 20 |
| Thallium, Dissolved | 0.00066J | 0.12 | 0.1297 | 108 | | - | - | | 75-125 | - | | 20 |
| Vanadium, Dissolved | ND | 0.5 | 0.5030 | 101 | | - | - | | 75-125 | - | | 20 |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100688
**Report Date:** 01/18/21

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | MSD Found | MSD %Recovery | Recovery Limits | RPD | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG1452977-3 QC Sample: L2100688-04 Client ID: CTRL 4 FEET DUP | | | | | | | | | |
| Zinc, Dissolved | 0.01466 | 0.5 | 0.5482 | 107 | - | - | 75-125 | - | 20 |
| Dissolved Metals - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG1452979-3 QC Sample: L2100688-05 Client ID: FLOW 4 FEET DUP | | | | | | | | | |
| Mercury, Dissolved | ND | 0.005 | 0.00425 | 85 | - | - | 75-125 | - | 20 |

# Lab Duplicate Analysis
*Batch Quality Control*

**Project Name:** FESL
**Project Number:** 20029

***Lab Number:*** L2100688
***Report Date:*** 01/18/21

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG1452977-4 QC Sample: L2100688-04 Client ID: CTRL 4 FEET DUP | | | | | | |
| Aluminum, Dissolved | 0.00918J | 0.00539J | mg/l | NC | | 20 |
| Antimony, Dissolved | 0.00087J | 0.00068J | mg/l | NC | | 20 |
| Arsenic, Dissolved | 0.01440 | 0.01434 | mg/l | 0 | | 20 |
| Barium, Dissolved | 0.1511 | 0.1509 | mg/l | 0 | | 20 |
| Beryllium, Dissolved | ND | ND | mg/l | NC | | 20 |
| Cadmium, Dissolved | ND | ND | mg/l | NC | | 20 |
| Calcium, Dissolved | 128. | 129 | mg/l | 1 | | 20 |
| Chromium, Dissolved | 0.00069J | 0.00061J | mg/l | NC | | 20 |
| Cobalt, Dissolved | 0.00541 | 0.00491 | mg/l | 10 | | 20 |
| Copper, Dissolved | 0.00130 | 0.00115 | mg/l | 12 | | 20 |
| Iron, Dissolved | 0.0396J | 0.0530 | mg/l | NC | | 20 |
| Lead, Dissolved | 0.01116 | 0.01077 | mg/l | 4 | | 20 |
| Magnesium, Dissolved | 51.7 | 53.6 | mg/l | 4 | | 20 |
| Manganese, Dissolved | 0.00726 | 0.00680 | mg/l | 7 | | 20 |
| Nickel, Dissolved | 0.09026 | 0.09295 | mg/l | 3 | | 20 |
| Potassium, Dissolved | 96.7 | 99.4 | mg/l | 3 | | 20 |
| Selenium, Dissolved | ND | ND | mg/l | NC | | 20 |
| Silver, Dissolved | ND | ND | mg/l | NC | | 20 |
| Sodium, Dissolved | 347. | 356 | mg/l | 3 | | 20 |

# Lab Duplicate Analysis

***Batch Quality Control***

**Project Name:** FESL
**Project Number:** 20029

***Lab Number:*** L2100688
***Report Date:*** 01/18/21

| Parameter | Native Sample | Duplicate Sample | Units | RPD | RPD Limits |
|---|---|---|---|---|---|
| Dissolved Metals - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG1452977-4 QC Sample: L2100688-04 Client ID: CTRL 4 FEET DUP | | | | | |
| Thallium, Dissolved | 0.00066J | 0.00124 | mg/l | NC | 20 |
| Vanadium, Dissolved | ND | ND | mg/l | NC | 20 |
| Zinc, Dissolved | 0.01466 | 0.01388 | mg/l | 5 | 20 |
| Dissolved Metals - Mansfield Lab Associated sample(s): 04-06 QC Batch ID: WG1452979-4 QC Sample: L2100688-05 Client ID: FLOW 4 FEET DUP | | | | | |
| Mercury, Dissolved | ND | ND | mg/l | NC | 20 |

# INORGANICS
# &
# MISCELLANEOUS

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100688
**Report Date:** 01/18/21

## SAMPLE RESULTS

Lab ID: L2100688-01
Client ID: CTRL 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 01/04/21 16:00
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Sulfate | 43. | | mg/l | 20 | 2.7 | 2 | 01/13/21 17:23 | 01/13/21 17:23 | 1,9038 | JB |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100688
**Report Date:** 01/18/21

## SAMPLE RESULTS

Lab ID: L2100688-02
Client ID: FLOW 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 01/04/21 16:01
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab | | | | | | | | | | |
| Sulfate | 40. | | mg/l | 20 | 2.7 | 2 | 01/13/21 17:23 | 01/13/21 17:23 | 1,9038 | JB |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100688
**Report Date:** 01/18/21

## SAMPLE RESULTS

Lab ID: L2100688-03
Client ID: TARGET 4 FEET DUP
Sample Location: ROCHESTER, NY

Date Collected: 01/04/21 16:02
Date Received: 01/07/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| **General Chemistry - Westborough Lab** | | | | | | | | | | |
| Sulfate | 34. | | mg/l | 20 | 2.7 | 2 | 01/13/21 17:23 | 01/13/21 17:23 | 1,9038 | JB |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100688
**Report Date:** 01/18/21

# Method Blank Analysis
## Batch Quality Control

| Parameter | Result | Qualifier | Units | RL | MDL | Dilution Factor | Date Prepared | Date Analyzed | Analytical Method | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1454683-1 | | | | | | | | | | |
| Sulfate | 1.7 | J | mg/l | 10 | 1.4 | 1 | 01/13/21 17:23 | 01/13/21 17:23 | 1,9038 | JB |

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** FESL

**Project Number:** 20029

**Lab Number:** L2100688

**Report Date:** 01/18/21

| Parameter | LCS %Recovery | Qual | LCSD %Recovery | Qual | %Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1454683-2 | | | | | | | | |
| Sulfate | 95 | | - | | 90-110 | - | | |

# Matrix Spike Analysis
## Batch Quality Control

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100688
**Report Date:** 01/18/21

| Parameter | Native Sample | MS Added | MS Found | MS %Recovery | Qual | MSD Found | MSD %Recovery | Qual | Recovery Limits | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1454683-4 QC Sample: L2100744-01 Client ID: MS Sample | | | | | | | | | | | | |
| Sulfate | 23. | 50 | 90 | 134 | | - | - | | 55-147 | - | | 14 |

# Lab Duplicate Analysis

***Batch Quality Control***

**Project Name:** FESL

**Project Number:** 20029

***Lab Number:*** L2100688

***Report Date:*** 01/18/21

| Parameter | Native Sample | Duplicate Sample | Units | RPD | Qual | RPD Limits |
|---|---|---|---|---|---|---|
| General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1454683-3 QC Sample: L2100744-01 Client ID: DUP Sample | | | | | | |
| Sulfate | 23. | 21 | mg/l | 9 | | 14 |

**Project Name:** FESL
**Project Number:** 20029

**Lab Number:** L2100688
**Report Date:** 01/18/21

## 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(*) |
|---|---|---|---|---|---|---|---|---|---|
| L2100688-01A | Plastic 60ml unpreserved | A | 7 | 7 | 2.9 | Y | Absent | | SO4-9038(28) |
| L2100688-02A | Plastic 60ml unpreserved | A | 9 | 9 | 2.9 | Y | Absent | | SO4-9038(28) |
| L2100688-03A | Plastic 60ml unpreserved | A | 9 | 9 | 2.9 | Y | Absent | | SO4-9038(28) |
| L2100688-04A | Plastic 250ml HNO3 preserved | A | <2 | <2 | 2.9 | Y | Absent | | K-6020S(180),SE-6020S(180),CU-6020S(180),V-6020S(180),MN-6020S(180),BE-6020S(180),CO-6020S(180),ZN-6020S(180),MG-6020S(180),FE-6020S(180),CA-6020S(180),CR-6020S(180),PB-6020S(180),NA-6020S(180),TL-6020S(180),NI-6020S(180),BA-6020S(180),SB-6020S(180),AG-6020S(180),AS-6020S(180),HG-S(28),AL-6020S(180),CD-6020S(180) |
| L2100688-05A | Plastic 250ml HNO3 preserved | A | 4 | <2 | 2.9 | N | Absent | | V-6020S(180),K-6020S(180),SE-6020S(180),CU-6020S(180),MN-6020S(180),CO-6020S(180),MG-6020S(180),BE-6020S(180),ZN-6020S(180),CA-6020S(180),CR-6020S(180),FE-6020S(180),NI-6020S(180),PB-6020S(180),TL-6020S(180),BA-6020S(180),NA-6020S(180),AS-6020S(180),AG-6020S(180),SB-6020S(180),AL-6020S(180),CD-6020S(180),HG-S(28) |
| L2100688-06A | Plastic 250ml HNO3 preserved | A | 4 | <2 | 2.9 | N | Absent | | CU-6020S(180),V-6020S(180),SE-6020S(180),K-6020S(180),MN-6020S(180),BE-6020S(180),ZN-6020S(180),CO-6020S(180),MG-6020S(180),CR-6020S(180),FE-6020S(180),CA-6020S(180),TL-6020S(180),NI-6020S(180),NA-6020S(180),PB-6020S(180),BA-6020S(180),AS-6020S(180),SB-6020S(180),AG-6020S(180),AL-6020S(180),HG-S(28),CD-6020S(180) |



*Values in parentheses indicate holding time in days

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2100688 |
| **Project Number:** | 20029 | **Report Date:** | 01/18/21 |

## GLOSSARY

***Acronyms***

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2100688 |
| **Project Number:** | 20029 | **Report Date:** | 01/18/21 |

***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.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

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. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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.

**F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

**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.

*Report Format: DU Report with 'J' Qualifiers*

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2100688 |
| **Project Number:** | 20029 | **Report Date:** | 01/18/21 |

***Data Qualifiers***

**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.

| | | | |
|---|---|---|---|
| **Project Name:** | FESL | **Lab Number:** | L2100688 |
| **Project Number:** | 20029 | **Report Date:** | 01/18/21 |

## REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

## LIMITATION OF LIABILITIES

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

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

# Certification Information

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

**Westborough Facility**
**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene
**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.
**EPA TO-12** Non-methane organics
**EPA 3C** Fixed gases
**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 JERSEY CHAIN OF CUSTODY

ALPHA ANALYTICAL

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

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

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

Page 1 of 1

Date Rec'd in Lab: 1/7/21

ALPHA Job #: L2100688

## Client Information

Client: XDD
Address: 22 Marin Way, Unit 3
Stratham, NH 03833
Phone: 603-778-1100
Fax:
Email: lcrawford@xdd-llc.com

## Project Information

Project Name: FESL
Project Location: Rochester, NY
Project #: 20029
(Use Project name as Project #) ☐
Project Manager: Ashaley Kane
ALPHAQuote #: 12786

## Turn-Around Time

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

## Deliverables

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

## Regulatory Requirement

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

## Billing Information

☑ Same as Client Info
PO # 4715

## Site Information

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

These samples have been previously analyzed by Alpha ☐

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

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

**Other project specific requirements/comments:**
invoices go to ap@xdd-llc.com

## ANALYSIS

| ALPHA Lab ID (Lab Use Only) | Sample ID | Collection Date | Collection Time | Sample Matrix | Sampler's Initials | Sulfate | Dissolved Metals - TAL | | | | | | | Sample Specific Comments | Total Bottles |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00688-01 | Ctrl 4 feet Dup | 1/4/2021 | 16:00 | GW | BJ | x | | | | | | | | | 1 |
| -02 | Flow 4 feet Dup | 1/4/2021 | 16:01 | GW | BJ | x | | | | | | | | | 1 |
| -03 | Target 4 feet Dup | 1/4/2021 | 16:02 | GW | BJ | x | | | | | | | | | 1 |
| -04 | Ctrl 4 feet Dup | 1/7/2021 | 8:40 | GW | LC | | x | | | | | | | filtration done | 1 |
| -05 | Flow 4 feet Dup | 1/7/2021 | 8:45 | GW | LC | | x | | | | | | | filtration done | 1 |
| -06 | Target 4 feet Dup | 1/7/2021 | 8:50 | GW | LC | | x | | | | | | | filtration done | 1 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Container Type | | | | | | P | P | | | | | | | | |
| Preservative | | | | | | A | C | | | | | | | | |

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

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

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

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

| Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|
| | 1/7/21 | | 1/7/21 0900 |
| FedEx | 1/7/21 1200 | Cadence AAL | 1/7/21 1200 |

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.

Form No: 01-14 (rev. 30-Sept-2013)

# APPENDIX 3

Health and Safety Plan

# Site Health and Safety Plan

Location:

Former Emerson Street Landfill
Rochester, New York  14606

Prepared For:

City of Rochester
Division of Environmental Quality
Room 300-B
Rochester, New York 14614

LaBella Project No. 210173

November 2020

# Table of Contents

**Page**

# SITE HEALTH AND SAFETY PLAN

| | |
|---|---|
| **Project Title:** | Former Emerson Street Landfill Pilot Test |
| **Project Number:** | 210173 |
| **Project Location (Site):** | Emerson Street, Rochester, New York |
| **Environmental Director:** | Gregory Senecal, CHMM |
| **Project Manager:** | Dan Noll, P.E. |
| **Site Safety Supervisor:** | To Be Determined |
| **Site Contact:** | To Be Determined |
| **Safety Director:** | Steven Szymanski |
| **Proposed Date(s) of Field Activities:** | To Be Determined |
| **Site Conditions:** | Slightly sloping, encompassing approximately 250 acres |
| **Site Environmental Information Provided By:** | Prior Environmental Reports by LaBella Associates, P.C. and various other consultants (refer to Work Plan) |
| **Air Monitoring Provided By:** | To Be Determined |

# EMERGENCY CONTACTS

| | Name | Phone Number |
|---|---|---|
| Ambulance: | As Per Emergency Service | 911 |
| Hospital Emergency: | Unity Health Systems | 585-723-7070 |
| Poison Control Center: | Finger Lakes Poison Control | 585-273-4621 |
| Police (local, state): | Monroe County Sheriff | 911 |
| Fire Department: | Rochester Fire Department | 911 |
| Site Contact: | To Be Determined | |
| Agency Contact: | NYSDEC – Todd Caffoe, P.E.<br>NYSDOH – Melissa Doroski<br>Finger Lakes Poison Control<br>MCDOH – Wade Silkworth | 585-226-5357<br>518-402-7860<br>1-800-222-1222<br>585-753-5470 |
| Environmental Director: | Greg Senecal, CHMM | Direct: 585-295-6243<br>Cell: 585-752-6480 |
| Project Manager: | Dan Noll, P.E. | Direct: 585-295-611<br>Cell: 585-301-8458 |
| Site Safety Supervisor: | To Be Determined | |
| LaBella Safety Director | Steven Szymanski | Direct: 585-295-6633 |

# MAP AND DIRECTIONS TO THE MEDICAL FACILITY
# PARK RIDGE HOSPITAL

Total Time: 8 minutes
Total Distance: 3.2 miles

Start: 1700 Emerson St, Rochester, NY, 14606-3122

1. Start out going SOUTH on MCCRACKANVILLE ST toward EMERSON ST.
2. Turn RIGHT on EMERSON ST.
2. Turn RIGHT onto LEE RD/CR-154.
3. Turn LEFT onto RIDGEWAY AVE.
4. 1555 LONG POND ROAD is on the LEFT.

End: 1555 Long Pond Road, Rochester, NY 14626

## 1.0 Introduction

The purpose of this Health and Safety Plan (HASP) it to provide guidelines for responding to potential health and safety issues that may be encountered during remedial actions at the former Emerson Street Landfill (FESL) located on Emerson Street in the City of Rochester, Monroe County, New York. This HASP only reflects the policies of LaBella Associates D.P.C. The requirements of this HASP are applicable to LaBella personnel at the work site. It is the responsibility of each sub-consultant and sub-contractor to follow their own companies HASP. In addition, the injection contractors will be required to provide copies of their HASP for review prior to initiating work so that all personnel on-Site are aware of health and safety issues and measures for these activities. This document's project specifications should be consulted for guidance in preventing and quickly abating any threat to human safety or the environment. The provisions of the HASP were developed in general accordance with 29 CFR 1910 and 29 CFR 1926 and do not replace or supersede any regulatory requirements of the USEPA, NYSDEC, OSHA or and other regulatory body.

## 2.0 Responsibilities

This HASP presents guidelines to minimize the risk of injury to project personnel, and to provide rapid response in the event of injury. The HASP is applicable only to activities of approved LaBella personnel. It is the responsibility of LaBella employees to follow the requirements of this HASP, or HASPs specific to individual activities, and all applicable company safety procedures.

## 3.0 Activities Covered

The activities covered under this HASP are limited to the following:

- PRB installation including but not limited to:
  - Fracturing bedrock
  - Mixing ZVI slurry
  - Injection of ZVI
  - Monitoring well installation and decommissioning
  - Collection of samples
- Performance Monitoring
- Re-grading/ cover system construction

## 4.0 Work Area Access and Site Control

Site control during the project will be the responsibility of LaBella. LaBella will have primary responsibility for maintaining a safe work area for all activities conducted by LaBella personnel. Subcontractors and sub-consultants will be responsible for maintaining a safe work area for work conducted by their own personnel. Such work area controls will consist of:

- Site security fencing with locking gate.
- Air monitoring.
- Use of Personal Protective Equipment (PPE).

## 5.0 Potential Health and Safety Hazards

This section lists some potential health and safety hazards that project personnel may encounter at the FESL, and some actions to be implemented by approved personnel to control and reduce the associated risk to health and safety. This is not intended to be a complete listing of any and all potential health and safety hazards. New or different hazards may be encountered as site environmental and site work conditions change. The suggested actions to be taken under this plan are not to be substituted for good judgment on the part of project personnel.

### *5.1 Hazards Due to Heavy Machinery and Equipment*

**Potential Hazard:**
Heavy machinery including trucks, excavators, backhoes, drill rigs, manufacturing equipment and processes, etc will be in operation at the site. The presence of such equipment presents the danger of being struck or crushed. Use caution when working near heavy machinery and manufacturing equipment.

**Protective Action:**
Make sure that operators are aware of your activities, and heed operator's instructions and warnings. Wear bright colored clothing and walk safe distances from heavy equipment. Do not wear loose clothing that could be caught by moving parts. A hard hat, safety glasses and steel toe shoes are required.

### *5.2 Excavation Hazards*

**Potential Hazard:**
Excavations and trenches can collapse, causing injury or death. Edges of excavations can be unstable and collapse. Fracturing and injection work will introduce pressure and will alter the pressure of the formation. Toxic and asphyxiant gases can accumulate in confined spaces and trenches. Excavations that require working within the excavation will require air monitoring in the breathing zone (refer to Section 9.0).

Excavations left open create a fall hazard which can cause injury or death.

**Protective Action:**
Approved personnel are not to enter excavations over 4 feet in depth unless excavations are adequately sloped. Additional personal protective equipment may be required based on the air monitoring.

Personnel should exercise caution near all excavations at the site as it is expected that excavation sidewalls will be unstable. All excavations will be backfilled by the end of each day. Additionally, no test pit will be left unattended during the day. Personnel should exercise caution during fracturing and ZVI injection and keep a safe distance from all equipment and machinery. Personnel should be cautious of well covers and other well materials that may be removed from wells due to the pressurization of the subsurface during bedrock blasting and/or chemical injection. Well caps from nearby wells should be locked in place to the steel casing or completely removed from wells prior to injection of ZVI.

Fencing and/or barriers accompanied by "no trespassing" signs should be placed around all excavations when left open for any period of time when work is not being conducted.

*5.3 Cuts, Punctures and Other Injuries*

**Potential Hazard:**
In any excavation or construction work site there is the potential for the presence of sharp or jagged edges on rock, metal materials, and other sharp objects. Serious cuts and punctures can result in loss of blood and infection.

**Protective Action:**
The Project Manager is responsible for making First Aid supplies available at the work site to treat minor injuries. The Site Safety Officer is responsible for arranging the transportation of authorized on-site personnel to medical facilities when First Aid treatment in not sufficient. Do not move seriously injured workers. All injuries requiring treatment are to be reported to the Project Manager. Serious injuries are to be reported immediately to the Site Safety Officer.

*5.4 Injury Due to Exposure of Chemical Hazards*

**Potential Hazards:**
Volatile organic vapors from petroleum products, chlorinated solvents or other chemicals may be encountered during the work. Inhalation of high concentrations of organic vapors can cause headache, stupor, drowsiness, confusion and other health effects. Skin contact can cause irritation, chemical burn, or dermatitis. ZVI will be utilized during the Pilot Test which can develop dust. ZVI contains approximately 96% iron and is non-toxic; however, the dust is a respiratory concern.

**Protective Action:**
The presence of organic vapors may be detected by their odor and by monitoring instrumentation. Approved employees will not work in environments where hazardous concentrations of organic vapors are present. Air monitoring will be performed in accordance with the NYSDOH Generic CAMP. Personnel are to leave the work area whenever PID measurements of ambient air exceed 25 ppm consistently for a 5 minute period. In the event that sustained total volatile organic compound (VOC) readings of 25 ppm is encountered personnel should upgrade personal protective equipment to Level C (refer to Section 8.0) and an Exclusion Zone should be established around the work area to limit and monitor access to this area (refer to Section 6.0). Personnel handling and mixing ZVI should attempt to prevent generating dust. A dust mask may be worn when mixing or transferring ZVI between containers to prevent inhalation. ZVI spilled to the ground in excess should be picked up using a shovel and placed in a container. The Safety Data Sheet for ZVI is included as an Appendix to the Pilot Test Work Plan.

*5.5 Injuries Due to Extreme Hot or Cold Weather Conditions*

**Potential Hazards:**
Extreme hot weather conditions can cause heat exhaustion, heat stress and heat stroke or extreme cold weather conditions can cause hypothermia.

**Protective Action:**
Precaution measures should be taken such as dress appropriately for the weather conditions and

drink plenty of fluid. If personnel should suffer from any of the above conditions, proper techniques should be taken to cool down or heat up the body and taken to the nearest hospital if needed.

*5.6 Potential Exposure to Asbestos*

**Potential Hazards:**
During ground intrusive activities (e.g., test pitting or drilling) soil containing asbestos may be encountered. Asbestos is friable when dry and can be inhaled when exposed to air.

**Protective Action:**
The presence of asbestos can be identified through visual observation of a white magnesium silicate material. If encountered, work should be halted and a sample of the suspected asbestos should be collected and placed in a plastic sealable bag. This sample should be sent to the asbestos laboratory at LaBella Associates for analysis.

*5.7 Potential Explosive Atmospheres*

**Potential Hazards:**
During ground intrusive activities (e.g., drilling, chemical injections, bedrock blasting, etc.), methane rich vapors within the explosive range could be encountered and pose an explosion risk once encountered.

**Protective Action:**
For all subsurface work, the work area environment will be monitored for methane concentrations. In the event that methane levels are measured at 50% of the lower explosive limit (LEL), meaning methane levels of 2.5% (i.e., methane LEL is 5%) then the work should be ceased until levels decrease to below 2.5%.

*5.8 Potential Exposure to Radiation*

**Potential Hazards:**
During ground intrusive activities (e.g., test pitting or drilling), radioactive material could be encountered and pose an exposure risk to humans once encountered.

**Protective Action:**
Each area of soil/ fill excavated should be screened with the Ludlum meter to check the level of radiation on the soil as compared to the Site background level of radiation. Should the level of radiation on the soil sample exceed 2 times the Site background level, then work should be halted at the specified location and Mr. Rick Rote of LaBella Associates, P.C. should be contacted immediately (see page ii Emergency Contacts).

*5.9 Potential High Pressure Equipment Failure*

**Potential Hazards:**
During injection work, high pressure pumps will be utilized with associated piping/ tubing. Failure of the equipment and/or materials (e.g., fittings) could result in a high pressure burst of the ZVI.

**Protective Action:**
LaBella will confirm with the injection contractor prior to work initiating that all equipment has been checked for defects or wear and that any materials/ equipment with suspect conditions is replaced. In addition, LaBella will be aware of the location of such equipment and will observe the work from a safe distance as much as possible. The use of proper PPE will also reduce potential issues should an incident occur.

*5.10 Potential Mishandling of Explosives*

**Potential Hazards:**
During the blasting work, explosives will be utilized to create a blast-enhanced bedrock trench. Misuse of the explosives could result in injury or death.

**Protective Action:**
LaBella will review the blasting subcontractor's HASP and review and health and safety measures during a site meeting with the contractor prior to the work. LaBella will observe/ document the work from a safe distance to be provided by the contractor and will not enter the EZ during blasting.

## 6.0 Work Zones

In the event that conditions warrant establishing various work zones (i.e., based on hazards - Section 5.4), the following work zones should be established:

**Exclusion Zone (EZ):**
The EZ will be established in the immediate vicinity and adjacent downwind direction of site activities that elevate breathing zone VOC concentrations to unacceptable levels based on field screening. These site activities include contaminated soil excavation and soil sampling activities. If access to the site is required to accommodate non-project related personnel then an EZ will be established by constructing a barrier around the work area (yellow caution tape and/or construction fencing). The EZ barrier shall encompass the work area and any equipment staging/soil staging areas necessary to perform the associated work. The contractor(s) will be responsible for establishing the EZ and limiting access to approved personnel. LaBella will not enter the EZ unless deemed necessary to do so. Depending on the condition for establishing the EZ, access to the EZ may require adequate PPE (e.g., Level C).

**Contaminant Reduction Zone (CRZ):**
The CRZ will be the area where personnel entering the EZ will don proper PPE prior to entering the EZ and the area where PPE may be removed. The CRZ will also be the area where decontamination of equipment and personnel will be conducted as necessary.

## 7.0 Decontamination Procedures

Upon leaving the work area, approved personnel shall decontaminate footwear as needed. Under normal work conditions, detailed personal decontamination procedures will not be necessary. Work clothing may become contaminated in the event of an unexpected splash or spill or contact with a contaminated substance. Minor splashes on clothing and footwear can be rinsed with clean water. Heavily contaminated clothing should be removed if it cannot be rinsed with water. Personnel assigned to this

project should be prepared with a change of clothing whenever on site.

## 8.0 Personal Protective Equipment

Generally, site conditions at this work site require level of protection of Level D or modified Level D. However, air monitoring will be conducted to determine if up-grading to Level C PPE is required (refer to Section 9.0). Descriptions of the typical safety equipment associated with Level D and Level C are provided below:

**Level D:**
Hard hat, safety glasses, rubber nitrile sampling gloves, steel toe construction grade boots, etc.

**Level C:**
Level D PPE and full or ½-face respirator and tyvek suit (if necessary). [*Note: Organic vapor cartridges are to be changed after each 8-hours of use or more frequently.*]

## 9.0 Air Monitoring

According to 29 CFR 1910.120(h), air monitoring shall be used to identify and quantify airborne levels of hazardous substances and health hazards in order to determine the appropriate level of employee protection required for personnel working onsite. Air monitoring will consist at a minimum of the procedures described in "NYSDOH Generic CAMP", included as Appendix 1A to the NYSDEC DER-10 *Technical Guidance for Site Investigation and Remediation* dated November 2009. Please refer to the NYSDOH Generic CAMP for further details on air monitoring at the Site.

The Air Monitor will utilize a photoionization Detector (PID) to screen the ambient air in the work areas for total Volatile Organic Compounds (VOCs) and a DustTrak tm Model 8520 aerosol monitor or equivalent for measuring particulates. Ambient air will generally be monitored upwind and downwind of the work area and logged in a minimum of 15-minute intervals during subsurface work.

If sustained PID readings of greater than 25 ppm are recorded in the breathing zone, then either personnel are to leave the work area until satisfactory readings are obtained or approved personnel may re-enter the work areas wearing at a minimum a ½ face respirator with organic vapor cartridges for an 8-hour duration (i.e., upgrade to Level C PPE). Organic vapor cartridges are to be changed after each 8-hours of use or more frequently, if necessary. If PID readings are sustained, in the work area, at levels above 25 ppm for a 5 minute average, work will be stopped immediately until safe levels of VOCs are encountered or additional PPE will be required (i.e., Level B).

If dust concentrations exceed the upwind concentration by 150 $\mu g/m^3$ (0.15 $mg/m^3$) consistently for a 10 minute period within the work area or at the downwind location, then LaBella personnel may not re-enter the work area until dust concentrations in the work area decrease below 150 $\mu g/m^3$ (0.15 $mg/m^3$), which may be accomplished by the construction manager implementing dust control or suppression measures.

## 10.0 Emergency Action Plan

In the event of an emergency, employees are to turn off and shut down all powered equipment and leave the work areas immediately. Employees are to walk or drive out of the Site as quickly as possible and wait at the assigned 'safe area'. Follow the instructions of the Site Safety Officer.

Employees are not authorized or trained to provide rescue and medical efforts. Rescue and medical efforts will be provided by local authorities.

## 11.0 Medical Surveillance

Medical surveillance will be provided to all employees who are injured due to overexposure from an emergency incident involving hazardous substances at this site.

## 12.0 Employee Training

Personnel who are not familiar with this site plan will receive training on its entire content and organization before working at the Site.

Individuals involved with the fieldwork must be 40-hour OSHA HAZWOPER trained with current 8-hour refresher certification.



## Table 1
## Exposure Limits and Recognition Qualities

| Compound | PEL-TWA (ppm)(b)(d) | TLV-TWA (ppm)(c)(d) | STEL | LEL (%)(e) | UEL (%)(f) | IDLH (ppm)(g)(d) | Odor | Odor Threshold (ppm) | Ionization Potential |
|---|---|---|---|---|---|---|---|---|---|
| Acetone | 750 | 500 | NA | 2.15 | 13.2 | 20,000 | Sweet | 4.58 | 9.69 |
| Anthracene | 0.2 | 0.2 | NA | NA | NA | NA | Faint aromatic | NA | NA |
| Benzene | 1 | 0.5 | 5 | 1.3 | 7.9 | 3000 | Pleasant | 8.65 | 9.24 |
| Benzo (a) pyrene (coal tar pitch volatiles) | 0.2 | 0.1 | NA | NA | NA | 700 | NA | NA | NA |
| Benzo (a)anthracene | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo (b) Fluoranthene | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo (g,h,i)perylene | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Benzo (k) Fluoranthene | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bromodichloromethane | NA | NA | NA | NA | NA | NA | NA | NA | 10.88 |
| Carbon Disulfide | 20 | 1 | NA | 1.3 | 50 | 500 | Odorless or strong garlic type | 0.096 | 10.07 |
| Chlorobenzene | 75 | 10 | NA | 1.3 | 9.6 | 2,400 | Faint almond | 0.741 | 9.07 |
| Chloroform | 50 | 2 | NA | NA | NA | 1,000 | ethereal odor | 11.7 | 11.42 |
| Chrysene | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 1,2-Dichloroethylene | 200 | 200 | NA | 9.7 | 12.8 | 400 | Acrid | NA | 9.65 |
| 1,2-Dichlorobenzene | 50 | 25 | NA | 2.2 | 9.2 | | Pleasant | | 9.07 |
| Ethylbenzene | 100 | 100 | NA | 1 | 6.7 | 2,000 | Ether | 2.3 | 8.76 |
| Fluoranthene | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Fluorene | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Isopropylbenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Methane | NA | NA | NA | 5 | 15 | NA | NA | NA | 12.98 |
| Methylene Chloride | 500 | 50 | NA | 12 | 23 | 5,000 | Chloroform-like | 10.2 | 11.35 |
| Naphthalene | 10, Skin | 10 | NA | 0.9 | 5.9 | 250 | Moth Balls | 0.3 | 8.12 |
| n-propylbenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Phenanthrene | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Pyrene | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| p-Isopropylbenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| sec-Butylbenzene | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Tetrachloroethane | NA | NA | NA | NA | NA | NA | Sweet | NA | NA |
| Toluene | 100 | 100 | NA | 0.9 | 9.5 | 2,000 | Sweet | 2.1 | 8.82 |
| Trichloroethylene | 100 | 50 | NA | 8 | 12.5 | 1,000 | Chloroform | 1.36 | 9.45 |
| 1,2,4-Trimethylbenzene | NA | 25 | NA | 0.9 | 6.4 | NA | Distinct | 2.4 | NA |
| 1,3,5-Trimethylbenzene | NA | 25 | NA | NA | NA | NA | Distinct | 2.4 | NA |
| Vinyl Chloride | 1 | 1 | NA | NA | NA | NA | NA | NA | NA |
| Xylenes (o,m,p) | 100 | 100 | NA | 1 | 7 | 1,000 | Sweet | 1.1 | 8.56 |
| *Metals* | | | | | | | | | |
| Arsenic | 0.01 | 0.2 | NA | NA | NA | 100, Ca | Almond | NA | NA |
| Cadmium | 0.2 | 0.5 | NA | NA | NA | NA | NA | NA | NA |
| Chromium | 1 | 0.5 | NA | NA | NA | NA | NA | NA | NA |
| Lead | 0.05 | 0.15 | NA | NA | NA | 700 | NA | NA | NA |
| Mercury | 0.05 | 0.05 | NA | NA | NA | 28 | Odorless | NA | NA |
| Selenium | 0.2 | 0.02 | NA | NA | NA | Unknown | NA | NA | NA |
| *Other* | | | | | | | | | |
| Asbestos | 0.1 (f/cc) | NA | 1.0 (f/cc) | NA | NA | NA | NA | NA | NA |

(a) Skin = Skin Absorption

(b) OSHA-PEL Permissible Exposure Limit (flame weighted average, 8-hour): NIOSH Guide, June 1990

(c) ACGIH – 8 hour time weighted average from Threshold Limit Values and Biological Exposure Indices for 2003

(d) Metal compounds in mg/m3

(e) Lower Exposure Limit (%)

(f) Upper Exposure Limit (%)

(g) mmediately Dangerous to Life or Health Level: NIOSH Guide, June 1990

Notes:

1. All values are given in parts per million (PPM) unless otherwise indicated
2. Ca = Possible Human Carcinogen, no IDLH information

# APPENDIX 4

## Community Air Monitoring Plan

# APPENDIX 1A

## New York State Department of Health
## Generic Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

### Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

**Continuous monitoring** will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

**Periodic monitoring** for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

## VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

## Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter ($mcg/m^3$) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 $mcg/m^3$ above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 $mcg/m^3$ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 $mcg/m^3$ of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

# APPENDIX 5

Quality Control Plan

# Quality Control Program (QCP)

Site Location:

Former Emerson Street Landfill
1700 Emerson Street
Rochester, New York

October 2020

300 State Street, Suite 201 | Rochester, NY 14614 | p 585-454-6110 | f 585-454-3066
www.labellapc.com

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# 1.0 Introduction

LaBella's Quality Control Program (QCP) is an integral part of its approach to environmental investigations. By maintaining a rigorous QC program, our firm is able to provide accurate and reliable data. This QCP should be followed during implementation of environmental investigation and remediation projects and should serve as a basis for quality control methods to be implemented during field programs. Project-specific requirements may apply.

The QC program contains procedures which allow for the proper collection and evaluation of data and documents that QC procedures have been followed during field investigations. The QC program presents the methodology and measurement procedures used in collecting quality field data. This methodology includes the proper use of equipment, documentation of sample collection, and sample handling procedures.

Procedures used in the firm's QC program are compatible with federal, state, and local regulations, as well as, appropriate professional and technical standards.

This QC program includes the following:

- QC Objectives and Checks
- Field Equipment, Handling, and Calibration
- Sampling and Logging Techniques
- Sample Handling, Packaging, and Shipping
- Laboratory Requirements and Deliverables

It should be noted that project-specific work plans (e.g., Remedial Investigation Work Plans) may have project specific details that will differ from the procedures in this QC program. In such cases, the project-specific work plan should be followed (subsequent to regulatory approval).

The characteristics of major importance for the assessment of generated data are accuracy, precision, completeness, representativeness, and comparability. Application of these characteristics to specific projects is addressed later in this document. The characteristics are defined below.

## 1.1 Accuracy

Accuracy is the degree of agreement of a measurement or average of measurements with an accepted reference or "true" value and is a measure of bias in the system.

## 1.2 Precision

Precision is the degree of mutual agreement among individual measurements of a given parameter.

### 1.3 Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount expected to be obtained under correct normal conditions.

### 1.4 Representativeness

Representativeness expresses the degree to which data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition

Careful choice and use of appropriate methods in the field will ensure that samples are representative. This is relatively easy with water or air samples since these components are homogeneously dispersed. In soil and sediment, contaminants are unlikely to be evenly distributed, and thus it is important for the sampler and analyst to exercise good judgment when removing a sample.

### 1.5 Comparability

Comparability expresses the confidence with which one data set can be compared to another. The data sets may be inter- or intra- laboratory.

## 2.0 Measurement of Data Quality

### 2.1 Accuracy

Accuracy of a particular analysis is measured by assessing its performance with "known" samples. These "knowns" take the form of EPA standard reference materials, or laboratory prepared solutions of target analytes spiked into a pure water or sample matrix. In the case of gas chromatography (GC) or GC/MS (mass spectrometry) analyses, solutions of surrogate compounds are used. These solutions can be spiked into every sample and are designed to mimic the behavior of target analytes without interfering with their determination.

In each case the recovery of the analyte is measured as a percentage, correcting for analytes known to be present in the original sample if necessary, as in the case of a matrix spike analysis. For EPA supplied known solutions, this recovery is compared to the published data that accompany the solution.

For the firm's prepared solutions, the recovery is compared to EPA-developed data or the firm’s historical data as available. For surrogate compounds, recoveries are compared to EPA CLP acceptable recovery tables.

If recoveries do not meet required criteria, then the analytical data for the batch (or, in the case of surrogate compounds, for the individual sample) are considered potentially inaccurate. The analyst or his supervisor must initiate an investigation of the cause of the problem and take corrective action. This can include recalibration of the instrument, reanalysis of the QC sample, reanalysis of

the samples in the batch, or flagging the data as suspect if the problems cannot be resolved. For highly contaminated samples, recovery of the matrix spike may depend on sample homogeneity. As a rule, analyses are not corrected for recovery of matrix spike or surrogate compounds.

## 2.2 Precision

Precision of a particular analysis is measured by assessing its performance with duplicate or replicate samples. Duplicate samples are pairs of samples taken in the field and transported to the laboratory as distinct samples. Their identity as duplicates is typically not known to the laboratory. For most purposes, precision is determined by the analysis of replicate pairs (i.e., two samples prepared at the laboratory from one original sample). Often in replicate analysis the sample chosen for replication does not contain target analytes so that quantitation of precision is impossible. For EPA CLP analyses, replicate pairs of spiked samples, known as matrix spike/matrix spike duplicate samples, are used for precision studies. This has the advantage that two real positive values for a target analyte can be compared.

Precision is calculated in terms of Relative Percent Difference (RPD).

- Where $X_1$ and $X_2$ represent the individual values found for the target analyte in the two replicate analyses or in the matrix spike/matrix spike duplicate analyses.
- RPDs must be compared to the method RPD for the analysis. The analyst or his supervisor must investigate the cause of RPDs outside stated acceptance limits. This may include a visual inspection of the sample for non-homogeneity, analysis of check samples, etc. Follow-up action may include sample reanalysis or flagging of the data as suspect if problems cannot be resolved.
- During the data review and validation process, field duplicate RPDs are assessed as a measure of the total variability of both field sampling and laboratory analysis.

## 2.3 Completeness

Completeness for each parameter is calculated as follows:

- The firm's target value for completeness for all parameters is 100%. A completeness value of 95% will be considered acceptable. Incomplete results will be reported to the site managers. In planning the field sample collection, the site manager will plan to collect field duplicates from identified critical areas. This procedure should assure 100% completeness for these areas.

## 2.4 Representativeness

The characteristic of representativeness is not quantifiable. Subjective factors to be taken into account are as follows:

- The degree of homogeneity of a site;
- The degree of homogeneity of a sample taken from one point in a site; and
- The available information on which a sampling plan is based.

To maximize representativeness of results, sampling techniques and sample locations will be carefully chosen so that they provide laboratory samples representative of the site and the specific area. Within the laboratory, precautions are taken to extract from the sample bottle an aliquot representative of the whole sample. This includes premixing the sample and discarding pebbles from soil samples.

### 2.5 Comparability

Comparability of laboratory tests is ensured by utilizing only New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)- certified laboratories. This certification is the basis for demonstrating proficiency in testing requirements. Using ELAP certified laboratories will result in consistency amongst analytical data within a specific project and across projects.

## 3.0 Quality Control Targets

Target values for detection limit, percent spike recovery and percent "true" value of known check standards, and RPD of duplicates/replicates are included in the QCP, Analytical Procedures. Note that tabulated values are not always attainable. Instances may arise where high sample concentrations, non-homogeneity of samples, or matrix interferences preclude achievement of target detection limits or other quality control criteria. In such instances, the firm will report reasons for deviations from these detection limits or noncompliance with quality control criteria.

## 4.0 Soil Boring Advancement & Monitoring Well Installation Procedures

Soil and groundwater sampling shall be conducted in accordance with NYSDEC Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation dated May 3, 2010 and any Site-specific work plans.

Prior to drilling, all drill sites will be cleared with appropriate utility companies to avoid potential accidents relating to underground utilities. Utility drawings will be reviewed, if available.

### 4.1 Drilling Equipment and Techniques

Direct Push Geoprobe Advanced Borings:

Soil borings and monitoring wells will be advanced with a Geoprobe direct push sampling system. The use of direct push technology allows for rapid sampling, observation, and characterization of relatively shallow overburden soils. The Geoprobe utilizes a four to five-foot macrocore sampler, with disposable polyethylene sleeves. Soil cores will be retrieved in four or five-foot sections, and can be easily cut from the polyethylene sleeves for observation and sampling. The macrocore sampler will be decontaminated between boring locations using an alconox and water solution.

Prior to initiating drilling activities, the Macrocores, drive rods, and pertinent equipment, will be steam cleaned or washed with an alconox and water solution. This cleaning procedure will also be used between each boring. Throughout and after the cleaning processes, direct contact between the equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures (e.g., pallets, sawhorses) will be used.

Test borings will be advanced with 2-inch (or larger) inside diameter (ID) direct push Macrocore through overburden soils. Drilling fluids, other than potable water will not be allowed without special consideration and agreement from NYSDEC. The use of lubricants is also not allowed unless approved by the NYSDEC representative.

During the drilling, a properly calibrated photoionization detector (PID) will be used to screen soil cores retrieved from the Macrocores.

Direct Push Geoprobe advanced groundwater-monitoring wells typically utilize minimum 1.25-inch threaded flush joint PVC pipe with 0.010-in. slotted screen or pre-packed well screens. PVC piping used for risers and screens will conform to the requirements of ASTM-D 1785 Schedule 40 pipe.. All materials used to construct the wells will be NSF/ASTM approved. Solvent PVC glue shall not be used at any time in the construction of the wells. The bottom of the screen shall be sealed with a treated cap or plug. No lead shot or lead wool is to be employed in sealing the bottom of the well or for sealant at any point in the well. Stainless steel wells or pre-packed PVC wells may be used if specified in the work plan and approved by the NYSDEC.

Hollow-Stem Auger Advanced Borings:

The drilling and installation of soil borings and monitoring wells will be performed using a rotary drill rig which will have sufficient capacity to perform 4 1/4-inch inside diameter (ID) hollow-stem auger drilling in the overburden, retrieve Macrocore or split-spoon samples, and perform necessary rock coring using NX, NQ, HQ or core barrel size as specified in the project-specific work plan. The borehole may be reamed up to 5 1/2-inch diameter prior to monitoring well installation as cased hole in the bedrock, or may be left as open bedrock hole, with regulatory concurrence. Equipment sizes and diameters may vary based on project-specific criteria. Any investigative derived waste generated during the advancement of soil borings and monitoring well installations will be containerized and characterized for proper disposal.

Prior to initiating drilling activities, the augers, rods, Macrocore, split spoons, and other pertinent equipment will be steam cleaned or washed with an alconox and water solution. This cleaning procedure will also be used between each boring. Steam cleaning activities will be performed in a designated on-site decontamination area. During and after the cleaning processes, direct contact between the equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures (e.g., pallets, sawhorses) will be used.
Test borings will be advanced with 4 1/4-inch (ID) hollow stem augers through overburden, and cored with a NX, NQ, HQ or core barrel size as specified in the project-specific work plan sized diamond core barrels in competent rock, driven by truck-, track-, or trailer-mounted drilling equipment. Alternative methods of drilling or equipment may be allowed or requested for project-

specific criteria, but must be approved by the NYSDEC. Drilling fluids, other than water from a NYSDEC-approved source, will not be allowed without special consideration and agreement from NYSDEC. The use of lubricants is also not allowed unless approved by the NYSDEC representative.

During the drilling, a (PID) will be used to screen soils retrieved from the split spoons or Macrocores. In the event that headspace field screening is required to determine the presence of VOCs in soil samples, the following procedure will be utilized:

- Soils from core will be inserted into an airtight glass jar and/or disposable polyethylene bag, and the container will be sealed immediately
- After sealing the container, the soils will be shaken or kneaded for 10-15 seconds to release volatiles into the headspace of the sealed container
- The PID inlet will be inserted into the headspace of the airtight container to screen soil samples for VOCs

During the drilling, visual screening will be utilized to identify any Non-Aqueous Phase Liquid (NAPL) in the soil cores.

Where bedrock wells are required, test borings shall be advanced into rock with NX, NQ, HR (or similar) coring tools. Only water from an approved source shall be used in rock coring. The consultant shall monitor and record the petrology, core recovery, fractures, rate of advance, and water lost or produced in each test boring. The Rock Quality Determination (RQD) value shall be calculated for each 5-foot core. Each core shall be screened with a PID upon extraction. All core samples shall be retained and stored by the consultant in an approved wooden core box for a period of not less than one year.

The method selected may be percussion or rotary drilling. The method and equipment selected must be capable of penetrating the bedrock at each well location to a depth required by the work plan.

Bedrock well installation will involve construction of a rock socket in the weathered bedrock. The socket will be drilled into the top of rock (typically 1-ft. to 5-ft. into the top of rock) at each bedrock well location to allow a permanent steel casing to be grouted securely in place prior to completion of the well. The purpose for this is to provide a seal at the overburden/bedrock interface and into the upper bedrock surface, to prevent the entrance of overburden water into the bedrock. After the grout and casing have set up for a minimum of 12 hours, the remaining bedrock can be NX (or similar) cored through the steel casing to a depth determined by the project-specific work plan.

Bedrock wells will either be open coreholes in the rock or consist of threaded, flush-joint PVC piping. Construction will vary depending on the project and as such, specific construction of the wells will be detailed in the project-specific work plan. Bedrock wells which do utilized PVC piping for risers and screens will conform to the requirements of ASTM-D 1785 Schedule 40 pipe. All materials used to construct the wells will be NSF/ASTM approved.

Screen and riser sections shall be joined by flush-threaded coupling to form watertight unions that retain 100% of the strength of the casing. Solvent PVC glue shall not be used at any time in the

construction of the wells. The bottom of the screen shall be sealed with a treated cap or plug. No lead shot or lead wool is to be employed in sealing the bottom of the well or for sealant at any point in the well.

#### *4.1.1 Artificial Sand Pack*

When utilized, granular backfill will be chemically and texturally clean, inert, siliceous, and of appropriate grain size for the screen slot size and the host environment The sand pack will be installed using a tremie pipe, when possible (i.e., a tremie pipe may not fit into smaller, 2-in. diameter boreholes). When utilized, the well screen and casing will be installed, and the sand pack placed around the screen and casing to a depth extending at least 2-ft.. A pre-packed well screen may be used if pre-approved by the NYSDEC.

An artificial sand pack will not be utilized in bedrock wells without screens (i.e., open borehole wells).

#### *4.1.2 Bentonite Seal*

A minimum 2-ft. thick seal will be placed directly on top of the sand pack, and care will be taken to avoid bridging. In the event that Site geology does not allow for a 2-ft. seal (e.g., only 1-ft. of space remains between the top of the sand pack and ground surface), the remaining space in the annulus will be filled with bentonite.

#### *4.1.3 Grout Mixture*

Upon completion of the bentonite seal, the well may be grouted with a non-shrinking cement grout (e.g., Volclay$^{R}$) mix to be placed from the top of the bentonite seal to the ground surface. The cement grout shall consist of a mixture of Portland cement (ASTM C 150) and water, in the proportion of not more than 7 gallons of clean water per bag of cement (1 cubic foot or 94 pounds). Additionally, 3% by weight of bentonite powder may be added.

#### *4.1.4 Surface Protection*

At all times during the progress of the work, precautions shall be used to prevent tampering with or the entrance of foreign material into the well. Upon completion of the well, a suitable cap shall be installed to prevent material from entering the well. Where permanent wells are to be installed, the well riser shall be protected by a flush mounted road box set into a concrete pad or locking well cap for stick-up wells. A concrete pad, sloped away from the well, shall be constructed around the flush mount road box or stick-up casing at ground level.

Any well that is to be temporarily removed from service or left incomplete due to delay in construction shall be capped with a watertight cap.

### 4.2 Surveying

Coordinates and elevations will be established for each monitoring well and sampling location. Elevations to the closest 0.01 foot shall be used for the survey. These elevations shall be referenced to a regional, local, or project-specific datum. The location, identification, coordinates,

and elevations of the wells will be plotted on maps with a scale large enough to show their location with reference to other structures at each site.

### 4.3 Well Development

After completion of the well, but not sooner than 24 hours after grouting is completed, development will be accomplished using pumping, bailing, or surge blocking. No dispersing agents, acids, disinfectants, or other additives will be used during development or introduced into the well at any other time. During development, water will be removed throughout the entire water column by periodically lowering and raising the pump intake (or bailer stopping point).

Development water will be either properly contained and treated as waste until the results of chemical analysis of samples are obtained or discharged on Site as determined by the Site-specific work plans and/or consultation with the NYSDEC representatives on Site.

The development process will continue until removal of a minimum of 110% of the water lost during drilling, three well volumes; whichever is greater, or as specified in the work plan. In the event that limited recharge does not allow for the recovery of all drilling water lost in the well or three (3) well volumes, the well will be allowed to stabilize to conditions deemed representative of groundwater conditions. Stabilization periods will vary by project but will be confirmed with the NYSDEC prior to sampling.

### 4.4 PFAS Soil Sampling Procedure

Soil samples for PFAS analysis will be collected using PFAS-Free equipment. Samples will be collected in bottleware provided by the laboratory. Because PFAS are found in numerous everyday items, the following special precautions will be taken during sampling activities:

- No use of Teflon®-containing materials (e.g., Teflon® tubing, bailers, tape, sample jar lid liners, plumbing paste).
- No use of low density polyethylene (LDPE)-containing materials.
- No Tyvek® clothing will be worn by samplers.
- Clothes treated with stain-resistant or rain-resistant coatings (e.g., Gortex®) will be not be worn by samplers.
- All clothing worn by sampling personnel must have been laundered multiple times.
- No fast food wrappers, disposable cups or microwave popcorn will be within the vicinity of the wells/ samples.
- There will be no use of chemical (blue) ice packs, aluminum foil, or Sharpies® within the vicinity of the wells/ samples.
- No use of sunscreen, insect repellants, cosmetic, lotions or moisturizers will be allowed by sampling personnel the day of sampling.
- If any of the above items are handled by the field personnel prior to sampling activities, field personnel will wash their hands thoroughly with soap and water prior to any sampling activities.
- Powder-free nitrile gloves will be worn during all sample collection activities.

Quality assurance/ quality control (QA/QC) samples for PFAS sampling will include one (1) field duplicate, one (1) matrix spike / matrix spike duplicates (MS/MSD) and one (1) equipment blank. The procedures and rationale for collecting these samples are described below.

- **Field duplicate** – Sample will be used to assess the variability in concentrations of samples from the same well due to the combined effects of sample processing in the field and laboratory as well as chemical analysis.

- **Matrix spike/matrix spike duplicate** – Sample will be used to provide information about the effect of the sample matrix on the design and measurement methodology used by the laboratory.

- **Equipment blank** – Sample will be collected to help identify possible contamination from sampling equipment (i.e., shovel, soil core, etc.).

PFAS samples will be submitted to an Environmental Laboratory Accreditation Program (ELAP) certified laboratory for analysis of the full PFAS target analyte list (21 compounds listed in the NYSDEC Guidance) via modified USEPA Method 537 with a method detection limit not to exceed 1 ug/kg. Note, the laboratory utilized will be ELAP certified for PFOA and PFOS in drinking water by EPA method 537 or ISO 25101 as ELAP does not currently offer certification for PFAS compounds in matrices other than finished drinking water.

## 5.0 Geologic Logging and Sampling

At each investigative location, borings will be advanced through overburden using either a drill rig and hollow-stem auger or direct push technology (split spoons or Macrocore). Soils will be evaluated for visual and olfactory evidence of impairment (i.e., staining, odors, and elevated PID readings) by a qualified individual. Sampling devices will be decontaminated according to procedures outlined in the Decontamination section of this document. When utilized, split-spoon samplers will be driven into the soil using a minimum 140-pound safety hammer and allowed to free-fall 30-inches, in accordance with ASTM-D 1586-84 specifications. The number of blows required to drive the sampler each 6-inches of penetration will be recorded. When required, samples will be stored in the appropriate bottleware (refer to Section 10) until analysis or deemed unnecessary.

In the event that maximum design depth of investigation is reached and hydrogeologic conditions are not suitable for well installation, the maximum drilling depth may be revised.

Boulders and bedrock encountered during well installation may be cored by standard diamond-core drilling methods using an NX, NQ, HQ size core barrel or other if specified in the project-specific work plan. All rock cores recovered will be logged by a qualified individual, and stored in labeled wooden core boxes. The cores will be stored by the firm until the project is completed or for at least one year. Drilling logs will be prepared by a qualified individual who will be present during drilling operations. One copy of each field boring and well construction log and groundwater data, will

typically be submitted as part of the investigation summary report (e.g., Remedial Investigation Report). The RQD value shall be calculated for each 5-foot section. Information provided in the logs shall include, but not be limited to, the following:

- Date(s), test hole identification, and project identification;
- Name of individual developing the log;
- Name of driller and assistant(s);
- Drill, make and model, auger size;
- Identification of alternative drilling methods used and justification thereof (e.g., rotary drilling with a specific bit type to remove material from within the hollow stem augers);
- Standard penetration test (ASTM D-1586) blow counts;
- Field diagram of each monitoring well installed with the depth to bottom of well/ screen, top of screen, length of riser, depth of steel casing, depths of sand pack, bentonite seal, grout, type of well completion etc.;
- Depth of each change of stratum;
- Identification of the material of which each stratum is composed, according to the USCS system or standard rock nomenclature, as appropriate;
- Depth interval from which each sample was taken, sample identification, and sample time;
- Depth at which hole diameters (bit sizes) change;
- Depth at which groundwater is encountered;
- Drilling fluid and quantity of water lost during drilling;
- Depth or location of any loss of tools or equipment;
- Depths of any fractures, joints, faults, cavities, or weathered zones

## 6.0 Groundwater Sampling Procedures

The groundwater in all new monitoring wells will be allowed to stabilize for at least 1week following development prior to sampling. Water levels will be measured to within 0.01 feet prior to purging and sampling. Sampling of each well will typically be accomplished in one of two ways; active or passive.

Active Sampling:

Active sampling includes bailing or pumping. Purging will be completed prior to active sampling if specified in the project-specific work plan. During purging, the following will be recorded in field books or groundwater sampling logs:

- date
- purge start time
- weather conditions
- presence of NAPL, if any, and approximate thickness
- pump rate
- pH
- dissolved oxygen
- temperature

- conductivity
- redox
- turbidity
- depth of well
- depth to water
- depth to pump intake
- purge end time
- volume of water purged

During low flow sampling, the water quality parameters including pH, conductivity, temperature, dissolved oxygen, redox, water level drawdown, and turbidity will be recorded at five (5) minute intervals. Samples will be collected after the parameters have stabilized for three (3) consecutive 5-minute intervals to within the specified ranges below:

- Water level drawdown (<0.3')
- Turbidity (+/- 10%, < 50-NTU for Metals Samples)
- pH (+/-0.1)
- Temperature (+/- 3%)
- Specific conductivity (+/- 3%)
- Dissolved Oxygen (+/- 10%)
- Oxidation reduction potential (+/- 10 millivolts)

Passive Sampling:

Groundwater samples will be collected via passive methods (i.e., no-purge) according to the following procedures and in the volumes specified in Table 10-1:

Samples will be collected via passive diffusion bag (PDB) samplers. PDB samplers are made of low-density polyethylene plastic tubing (typically 4 mil), filled with laboratory grade (ASTM Type II) deionized water and sealed at both ends.

- Pre-filled PDBs will not be stored for longer than 30 days and will be kept stored at room temperature in a sealed plastic bag until ready to use.
- PDBs filled in the field will be used immediately and not stored for future use.
- PDB samplers will only be used to collect groundwater samples which will be analyzed for VOCs.
- Mesh covers will be utilized for open rock holes as to not puncture the PDB and will be secured to the bag using zip-ties.
- PDB samplers will be deployed by hanging in the well at the depth(s) specified in the project-specific work plan. The depth at which the PDB is deployed will be recorded on the groundwater sampling form. The PDB samplers will be deployed at least 14 days prior to sampling;
- When transferring water from the PDB to sample containers, care will be taken to avoid agitating the sample, since agitation promotes the loss of volatile constituents;

- Gloves will be changed between collection of each PDB and tools used to open the PDB will be decontaminated with an alconox and potable water solution between each PDB;
- Any volume not used will be treated as investigation derived waste;
- Any observable physical characteristics of the groundwater (e.g., color, sheen, odor, turbidity) at the time of sampling will be recorded; and
- Weather conditions (i.e., air temperature, sky condition, recent heavy rainfall, drought conditions) at the time of sampling will be recorded.

## 6.1 PFAS Groundwater Sampling Procedure

Samples for PFAS analysis will be collected using PFAS-Free equipment, specifically a dedicated disposable high density polyethylene (HDPE) or PVC bailers, and/or low-flow sampling equipment with PFAS-Free components. Samples will be collected in bottleware provided by the laboratory. Because PFAS are found in numerous everyday items, the following special precautions will be taken during sampling activities:

- No use of Teflon®-containing materials (e.g., Teflon® tubing, bailers, tape, sample jar lid liners, plumbing paste).
- No use of low density polyethylene (LDPE)-containing materials.
- No Tyvek® clothing will be worn by samplers.
- Clothes treated with stain-resistant or rain-resistant coatings (e.g., Gortex®) will be not be worn by samplers.
- All clothing worn by sampling personnel must have been laundered multiple times.
- No fast food wrappers, disposable cups or microwave popcorn will be within the vicinity of the wells/ samples.
- There will be no use of chemical (blue) ice packs, aluminum foil, or Sharpies® within the vicinity of the wells/ samples.
- No use of sunscreen, insect repellants, cosmetic, lotions or moisturizers will be allowed by sampling personnel the day of sampling.
- If any of the above items are handled by the field personnel prior to sampling activities, field personnel will wash their hands thoroughly with soap and water prior to any sampling activities.
- Powder-free nitrile gloves will be worn during all sample collection activities.

Quality assurance/ quality control (QA/QC) samples for PFAS sampling will include one (1) field duplicate, one (1) matrix spike / matrix spike duplicates (MS/MSD) and one (1) equipment blank. The procedures and rationale for collecting these samples are described below.

- **Field duplicate** – Sample will be used to assess the variability in concentrations of samples from the same well due to the combined effects of sample processing in the field and laboratory as well as chemical analysis.

- **Matrix spike/matrix spike duplicate** – Sample will be used to provide information about the effect of the sample matrix on the design and measurement methodology used by the

laboratory.

- **Equipment blank** – Sample will be collected to help identify possible contamination from sampling equipment (i.e., bailer). One equipment blank will be collected by pouring laboratory certified analyte-free deionized water over a bailer into the sample container.

PFAS samples will be submitted to an Environmental Laboratory Accreditation Program (ELAP) certified laboratory for analysis of the full PFAS target analyte list (21 compounds listed in the NYSDEC Guidance) via modified USEPA Method 537 with a method detection limit not to exceed 2 ng/L. Note, the laboratory utilized will be ELAP certified for PFOA and PFOS in drinking water by EPA method 537 or ISO 25101 as ELAP does not currently offer certification for PFAS compounds in matrices other than finished drinking water.

# 7.0 Soil Vapor Intrusion Sampling Procedures

Soil vapor intrusion (SVI) sampling is to be conducted in accordance with the *NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated October 2006 and subsequent updates. Tracer gas testing is to be conducted for sub-slab sampling points to ensure concentrations of the tracer gas are not detected in the sub-slab at greater than 10% of the concentration detected in the atmosphere. An outdoor air sample is to be collected at an upwind direction as a control. A building inventory should be completed to document building construction information and identify products that may be contributing to the levels in indoor air.

# 8.0 Radiation Screening Procedures

A building and soil cover walkover survey will be completed by a NYSDEC Radioactive Materials Licensed (RML) Contractor.

The RML Contractor will also provide training and oversight to LaBella personnel during implementation of the overburden soil and groundwater and shallow bedrock groundwater evaluations.

Based on the project-specific aspects of the radiation screening, detailed procedures are included in Section 6.1.1 of the RIWP.

# 9.0 Field Documentation

## 9.1 Daily Logs/ Field Notebook

Daily logs are necessary to provide sufficient data and observations to enable participants to reconstruct events that occurred during the project and to refresh the memory of the field personnel if called upon to give testimony during legal proceedings. Daily logs may be kept in a project-specific notebook labelled with the project name/ number and contact information.

The daily log is the responsibility of the field personnel and will include:

- Name of person making entry;
- Start and end time of work;
- Names of team members on-site;
- Changes in required levels of personnel protection:
  - Level of protection originally used;
  - Changes in protection, if required; and
  - Reasons for changes.
- Air monitoring locations, start and end times, and equipment identification numbers;
- Summary of tasks completed;
- Summary of samples collected including location, matrix, etc.;
- Field observations and remarks;
- Weather conditions, wind direction, etc.;
- Any deviations from the work plan;
- Initials/ signature of person recording the information.

As with any data logbooks, no pages will be removed for any reason. If corrections are necessary, these must be made by drawing a single line through the original entry (so that the original entry can still be read) and writing the corrected entry alongside. The correction must be initialed and dated. Corrected errors may require a footnote explaining the correction.

Sample documents, forms, or field notebooks are not to be destroyed or thrown away, even if they are illegible or contain inaccuracies that require a replacement document. If an error is made on a document assigned to one individual, that individual may make corrections simply by crossing a line through the error and entering the corrected information. The incorrect information should not be obliterated. Any subsequent error discovered on a document should be corrected by the person who made the entry. All corrections must be initialed and dated.

### 9.2 Photographs

Photographs will be taken to document the work. Documentation of a photograph is crucial to its validity as a representation of an existing situation. Photographs should be documented with date, location, and description of the photograph.

## 10.0 Investigation Derived Waste

Purpose:

The purposes of these guidelines are to ensure the proper holding, storage, transportation, and disposal of materials that may contain hazardous wastes. Investigation-derived waste (IDW) included the following:

- Drill cuttings, drilling mud solids;
- Water produced during drilling;
- Well development and purge waters, unused PDB waters;
- Decontamination waters and associated solids;

IDW will be managed in substantial accordance with DER-10 and all applicable local, State and Federal regulations.

Procedure:

1. Contain all investigation-derived wastes in Department of Transportation (DOT)-approved 55-gallon drums, roll-off boxes, or other containers suitable for the wastes.
2. Place different media in separate drums (i.e., do not combine solids and liquids).
3. To the extent practicable, separate solids from drilling muds, decontamination waters, and similar liquids. Place solids within separate containers.
4. Transfer all waste containers to a staging area. Access to this area will be controlled. Waste containers must be transferred to the staging area as soon as practicable after the generating activity is complete.
5. Label all containers with regard to contents, origin, and date of generation. Use indelible ink for all labeling.
6. Collect samples for waste characterization purposes, use boring/well sample analytical data for characterization.
7. For wastes determined to be hazardous in character, be aware on accumulation time limitations. Coordinate the disposal of these wastes with the Owner and NYSDEC.
8. Dispose of investigation-derived wastes as follows;
    - Soil, water, and other environmental media for which analysis does not detect organic constituents, and for which inorganic constituents are at levels consistent with background, may be spread on-site (pending NYSDEC approval) or otherwise treated as a non-waste material.
    - Soils, water, and other environmental media in which organic compounds are detected or metals are present above background will be disposed as industrial waste or hazardous waste, as appropriate. Alternate disposition must be consistent with applicable State and Federal laws.
    - Personal protective equipment, disposable bailers, and similar equipment may be disposed as municipal waste, unless waste characterization results mandate disposal as industrial wastes
9. If waste is determined to be listed hazardous waste, it must be handled as hazardous waste as described above, unless a contained-in determination is accepted by the NYSDEC.

## 11.0 Decontamination Procedures

Sampling methods and equipment have been chosen to minimize decontamination requirements and to prevent the possibility of cross-contamination. Decontamination of equipment will be performed between discrete sampling locations. Equipment used to collect samples between composite sample locations will not require decontamination between collection of samples. All drilling equipment will be decontaminated after the completion of each drilling location. Special attention will be given to the drilling assembly and augers.

Split spoons and other non-disposable equipment will be decontaminated between each sampling location. The sampler will be cleaned prior to each use, by one of the following procedures:

- Initially cleaned of all foreign matter;
- Sanitized with a steam cleaner;

OR

- Initially cleaned of all foreign matter;
- Scrubbed with brushes in alconox solution;
- Triple rinsed; and
- Allowed to air dry.

Other sampling equipment including but not limited to low-flow sampling pumps, surface soil sampling trowel, water level meters, etc. will be decontaminated between sample location using an alconox solution. Consumables including gloves, tubing, bailers, string, etc. will be dedicated to one sample location and will not be reused.

## 12.0 Sample Containers

The containers required for sampling activities are pre-washed and ordered directly from a laboratory, which has the containers prepared in accordance with USEPA bottle washing procedures. The following tables detail sample volumes, containers, preservation and holding time for typical analytes.

## Table 11-1
## Groundwater Samples

| Type of Analysis | Type and Size of Container | Number of Containers and Sample Volume (per sample) | Preservation | Holding Time Until Extraction/ Analysis |
|---|---|---|---|---|
| VOCs | 40-ml glass vial with Teflon-backed septum | Two (2); fill completely, no headspace | Cool to 4° C (ice in cooler), Hydrochloric acid to pH <2 | 14 days |
| Semi-volatile Organic Compounds (SVOCs) | 1,000-ml amber glass jar | One (1); fill completely | Cool to 4° C (ice in cooler) | 7/40 days |
| Pesticides | 1,000-ml amber glass jar | One (1); fill completely | Cool to 4° C (ice in cooler) | 7/40 days |
| Polychlorinated biphenyls (PCBs) | 1,000-ml amber glass jar | One (1); fill completely | Cool to 4° C (ice in cooler) | 7/40 days |
| Metals | 250-ml HDPE | One (1); fill completely | Cool to 4° C (ice in cooler) Nitric acid to pH <2 | 180 days (28 for mercury) |
| Cyanide | 1,000-mL HDPE | | Cool to 4° C (ice in cooler) Nitric acid to pH <2 | 14 days |
| 1,4-Dioxane | 40-ml glass vial with Teflon-backed septum | Three (3); fill completely, no headspace | Cool to 4° C (ice in cooler), Hydrochloric acid to pH <2 | 14 days |
| PFAS | 250-mL HDPE, no Teflon | Two (2); fill completely | Cool to 4° C (ice in cooler), Trizma | 14 days |

*Note:*
*All sample bottles will be prepared in accordance with USEPA bottle washing procedures.*
*Consult with laboratory as bottleware may vary by laboratory.*
*Holding time begins at the time of sample collection.*

## TABLE 11-2
## Soil Samples

| Type of Analysis | Type and Size of Container | Number of Containers and Sample Volume (per sample) | Preservation | Holding Time Until Extraction/ Analysis |
|---|---|---|---|---|
| VOCs | 4-oz, glass jar with Teflon-lined cap | One (1), fill as completely as possible | Cool to 4° C (ice in cooler) | 14 days |
| VOCs via EPA 5035 | 40 mL vials with sodium bisulfate, methanol, and/or DI water | Three (3), 5 grams each | Cool to 4° C (ice in cooler) | 2 days* |
| SVOCs | 4-oz, glass jar with Teflon-lined cap | One (1), fill as completely as possible | Cool to 4° C (ice in cooler) | 7/40 days |
| PCBs | 4-oz, glass jar with Teflon-lined cap | One (1), fill as completely as possible | Cool to 4° C (ice in cooler) | 7/40 days |
| Pesticides | 4-oz, glass jar with Teflon-lined cap | One (1), fill as completely as possible | Cool to 4° C (ice in cooler) | 14/40 days |
| Metals | 4-oz. glass jar with Teflon-lined cap | One (1), fill as completely as possible | Cool to 4° C (ice in cooler) | 180 days (28 for mercury) |
| Cyanide | 4-oz, glass jar with Teflon-lined cap | One (1), fill as completely as possible | Cool to 4° C (ice in cooler) | 14 days |
| 1,4-Dioxane | 40 mL vials with sodium bisulfate, methanol, and/or DI water | Three (3), 5 grams each | Cool to 4° C (ice in cooler) | 2 days* |
| PFAS | 8-oz HDPE, no Teflon | One (1); fill as completely as possible | Cool to 4° C (ice in cooler) | 28 days |

*Note:*
**Or freeze within holding time.*
*All sample bottles will be prepared in accordance with USEPA bottle washing procedures.*
*Consult with laboratory as bottleware may vary by laboratory.*
*Holding time begins at the time of sample collection.*

## Table 11-3
### Air Samples

| Type of Analysis | Type and Size of Container | Number of Containers and Sample Volume (per sample) | Preservation | Holding Time Until Extraction/ Analysis |
|---|---|---|---|---|
| VOCs | 1 – Liter Summa® Canister | One (1) 1-Liter<br>1.4- Liter for MS/MSD | N/A | 14 days |

*Note:*
*All sample bottles will be prepared in accordance with USEPA bottle washing procedures.*
*Consult with laboratory as bottleware may vary by laboratory.*
*Holding time begins at the time of sample collection.*

# 13.0 Sample Custody and Shipment

## 13.1 Sample Identification

All containers of samples collected from the project will be identified using the following format on a label or tag fixed to the sample container:

AA-BB-CC-DD-EE

AA: This set of initials indicates an abbreviation for the Site from which the sample was collected.
BB This set of initials represents the type of sample (e.g., SB for soil boring and MW for monitoring well)
CC: These initials identify the unique sample location number.
DD: These initials identify the sample start depth (if soil sample)
EE These initials identify the sample end depth (if soil sample)

Each sample will be labeled, chemically preserved (if required) and sealed immediately after collection. To minimize handling of sample containers, labels will be filled out prior to sample collection when possible. The sample label will be filled out using waterproof ink and will be firmly affixed to the sample containers. The sample label will give the following information:

- Date and time of collection
- Sample identification
- Analysis required
- Project name/number
- Preservation

Sample tags attached to or affixed around the sample container must be used to properly identify all samples collected in the field. The sample tags are to be placed on the bottles so as not to obscure any QC lot numbers on the bottles; sample information must be printed in a legible manner using waterproof ink. Field identification must be sufficient to enable cross-reference with the logbook.

For chain-of-custody purposes, all QC samples are subject to exactly the same custodial procedures and documentation as "real" samples.

## 13.2 Chain of Custody

This section describes standard operating procedures for sample identification and chain-of-custody to be utilized for all field activities. The purpose of these procedures is to ensure that the quality of the samples is maintained during their collection, transportation, and storage through analysis. All chain-of-custody requirements comply with standard operating procedures indicated in USEPA sample handling protocol.

Sample identification documents must be carefully prepared so that sample identification and chain-of-custody can be maintained and sample disposition controlled. Sample identification documents include:

- Field notebooks;
- Sample label; and
- Chain-of-custody records.

The primary objective of the chain-of-custody procedures is to provide an accurate written or computerized record that can be used to trace the possession and handling of a sample from collection to completion of all required analyses. A sample is in custody if it is:

- In someone's physical possession;
- In someone's view;
- Locked up; or
- Kept in a secured area that is restricted to authorized personnel.

As few persons as possible should handle samples. Sample bottles will be obtained pre-cleaned from the a laboratory. Sample containers should only be opened immediately prior to sample collection. The sample collector is personally responsible for the care and custody of samples collected until they are transferred to another person or dispatched properly under chain-of-custody rules. The sample collector will record sample data in the field notebook and/or field logs.

The chain-of-custody record must be fully completed in duplicate, using black carbon paper where possible, by the field technician who has been designated by the project manager as responsible for sample shipment to the appropriate laboratory for analysis. In addition, if samples are known to require rapid turnaround in the laboratory because of project time constraints or analytical concerns (e.g., extraction time or sample retention period limitations, etc.), the person completing the chain-of-custody record should note these constraints on the chain of custody.

## 13.3 Transfer of Custody and Shipment

The coolers in which the samples are packed must be accompanied by a chain-of-custody record. When transferring samples, the individuals relinquishing and receiving them must sign, date, and note the time on the chain-of-custody record. This record documents sample custody transfer.

Shipping containers must be sealed with custody seals for shipment to the laboratory. The method of shipment, name of courier, and other pertinent information are entered on the chain-of-custody.

All shipments must be accompanied by the chain-of-custody record identifying their contents. The original record accompanies the shipment. The other copies are distributed appropriately to the site manager.

## 13.4 Custody Seals

Custody seals are preprinted adhesive-backed seals. Sample shipping containers (coolers, cardboard boxes, etc., as appropriate) are sealed in as many places as necessary to ensure security. Seals must be signed and dated before shipment. On receipt at the laboratory, the custodian must check (and certify, by completing the package receipt log and LABMIS entries) that seals on boxes and bottles are intact. Strapping tape should be placed over the seals to ensure that seals are not accidentally broken during shipment.

## 13.5 Sample Packaging

Samples must be packaged carefully to avoid breakage or contamination and must be shipped to the laboratory at proper temperatures. The following sample packaging requirements will be followed:

- Sample bottle lids must never be mixed. All sample lids must stay with the original containers.
- The label should not cover any bottle preparation QC lot numbers.
- All sample bottles are placed in a plastic bag and/or individual bubble wrap sleeves to minimize the potential for cross-contamination and breaking.
- Shipping coolers must be partially filled with packing materials and ice when required, to prevent the bottles from moving during shipment.
- The sample bottles must be placed in the cooler in such a way as to ensure that they do not directly come in contact with other samples. Ice will be added to the cooler to ensure that the samples reach the laboratory at temperatures no greater than 4°C.
- Any remaining space in the cooler should be filled with inert packing material. Under no circumstances should material such as sawdust, sand, etc., be used.
- A chain of custody record must be placed in a plastic bag inside the cooler. Custody seals must be affixed to the sample cooler.

## 13.6 Sample Shipment

Shipping containers are to be custody-sealed for shipment as appropriate. The container custody seal will consist of tape wrapped around the package and custody seals affixed in such a way that access to the container can be gained only by cutting the filament tape and breaking the seal. Chain of custody seals shall be placed on the container, signed, and dated prior to taping the container to ensure the chain of custody seals will not be destroyed during shipment. In addition, the coolers must also be labeled and placarded in accordance with DOT regulations if shipping medium and

high hazard samples.

Field personnel will make arrangements for transportation of samples to the lab. The lab must be notified as early as possible regarding samples intended for Saturday delivery. The transportation and handling of samples must be accomplished in a manner that not only protects the integrity of the sample, but also prevents any detrimental effects due to the possible hazardous nature of samples. Regulations for packaging, marking, labeling, and shipping hazardous materials are promulgated by the United States DOT in the Code of Federal Regulation, 49 CFR 171 through 177. All samples will be delivered to the laboratory and analyzed within the holding times specified by the analytical method for that particular analyte.

All chain-of-custody requirements must comply with standard operating procedures in the USEPA sample handling protocol.

### 13.7 Laboratory Custody Procedures

A designated sample custodian accepts custody of the shipped samples and verifies that the sample identification number matches that on the chain-of-custody record and traffic reports, if required. Pertinent information as to shipment, pickup, and courier is entered on the chain of custody or attached forms.

## 14.0 Deliverables

This section will describe laboratory requirement and procedures to be followed for laboratory analysis. Samples collected in New York State will be analyzed by a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. When required, analyses will be conducted in accordance with the most current NYSDEC Analytical Services Protocol (ASP). For example, ASP Category B reports will be completed by the laboratory for samples representing the final delineation of the Remedial Investigation, confirmation samples, samples to determine closure of a system, and correlation samples taken using field testing technologies analyzed by an ELAP-certified laboratory to determine correlation to field results. Data Usability Summary Reports will be completed by a third party for samples requiring ASP Category B format reports. Electronic data deliverables (EDDs) will also be generated by the laboratory in EQUIS format for samples requiring ASP Category B format reports.

NYSDEC DER-10 DUSR requirements are as follows:

a) Background. The Data Usability Summary Report (DUSR) provides a thorough evaluation of analytical data with the primary objective to determine whether or not the data, as presented, meets the site/project specific criteria for data quality and data use.

    1. The development of the DUSR must be carried out by an experienced environmental scientists, such as the project Quality Assurance Officer, who is fully capable of conducting a full data validation. The DUSR is developed from:

i. A DEC ASP Category B Data Deliverable; or
ii. The *USEPA Contract Laboratory Program National Functional Data Validation Standard Operating Procedures for Data Evaluation and Validation.*

2. The DUSR and the data deliverables package will be reviewed by DER staff. If full third party data validation is found to be necessary (e.g. pending litigation) this can be carried out at a later data on the same data package used for the development of the DUSR.

b) Personnel Requirements. The person preparing the DUSR must be pre-approved by DER. The person must submit their qualifications to DER documenting experience in analysis and data validation. Data validator qualifications are available on DEC's website identified in the table of contents.
c) Preparation of a DUSR. The DUSR is developed by reviewing and evaluating the analytical data package. In order for the DUSR to be acceptable, during the course of this review the following questions applicable to the analysis being reviewed must be answered in the affirmative.

1. Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?
2. Have all holding times been met?
3. Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?
4. Have all of the data been generated using established and agreed upon analytical protocols?
5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?
6. Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?
7. Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheets from the data package been attached to the DUSR?

d) Documenting the validation process in the DUSR. Once the data package has been reviewed and the above questions asked and answered the DUSR proceeds to describe the samples and the analytical parameters, including data deficiencies, analytical protocol deviations and quality control problems are identified and their effect on the data is discussed.

## 15.0 Equipment Calibration

All instruments and equipment used during sampling and analysis will be operated, calibrated, and maintained according to the manufacturer's guidelines and recommendations as well as criteria set

forth in the applicable analytical methodology references. Operation, calibration, and maintenance will be performed by personnel properly trained in these procedures. Section 11 lists the major instruments to be used for sampling and analysis. In addition, brief descriptions of calibration procedures for major field and laboratory instruments follow.

### 15.1 Photovac/MiniRae Photoionization Detector (PID)

Standard operating procedures for the PID require that routine maintenance and calibration be performed every six months. Field calibration will be performed on a daily basis. The packages used for calibration are non-toxic analyzed gas mixtures available in pressurized containers. All calibration procedures will follow the manufacturer recommendations.

### 15.2 Conductance, Temperature, and pH Tester

Temperature and conductance instruments are factory calibrated. Temperature accuracy can be checked against an NBS certified thermometer prior to field use if necessary. Conductance accuracy may be checked with a solution of known conductance and recalibration can be instituted, if necessary.

### 15.3 $O_2$/Explosimeter

The specific meter used at the time of work shall be calibrated in accordance with manufacturer recommendations. The model 260 $O_2$/ Explosimeter is described below.

The primary maintenance item of the Model 260 is the rechargeable 2.4 volt (V) nickel cadmium battery. The battery is recharged by removing the screw cap covering receptacle and connecting one end of the charging cable to the instrument and the other end to a 115V AC outlet.

The battery can also be recharged using a 12V DC source. An accessory battery charging cable is available, one end of which plugs into the Model 260 while the other end is fitted with an automobile cigarette lighter plug.

Recommended charging time is 16 hours.

Before the calibration of the combustible gas indicator can be checked, the Model 260 must be in operating condition. Calibration check-adjustment is made as follows:

1. Attach the flow control to the recommended calibration gas tank.
2. Connect the adapter-hose to the flow control.
3. Open flow control valve.
4. Connect the adapter-hose fitting to the inlet of the instrument; after about 15 seconds the LEL meter pointer should be stable and within the range specified on the calibration sheet accompanying the calibration equipment. If the meter pointer is not in the correct range, stop the flow; remove the right hand side cover. Turn on the flow and adjust the "S" control with a small screwdriver to obtain a reading as specified on the calibration

sheet.

5. Disconnect the adapter-hose fitting from the instrument.
6. Close the flow control valve.
7. Remove the adapter-hose from the flow control.
8. Remove the flow control from the calibration gas tank.
9. Replace the side cover on the Model 260.

**CAUTION:** Calibration gas tank contents are under pressure. Use no oil, grease, or flammable solvents on the flow control or the calibration gas tank. Do not store calibration gas tank near heat or fire or in rooms used for habitation. Do not throw in fire, incinerate, or puncture. Keep out of reach of children. It is illegal and hazardous to refill this tank. Do not attach the calibration gas tank to any other apparatus than described above. Do not attach any gas tank other than MSA calibration tanks to the regulator.

### 15.4 Nephelometer (Turbidity Meter)

LaMotte 2020WE Turbidity Meter is calibrated before each use. The default units are set to NTU and the default calibration curve is formazin. A 0 NTU Standard (Code 1480) is included with the meter. To calibrate, rinse a clean tube three times with the blank. Fill the tube to the fill line with the blank. Insert the tube into the chamber, close the lid, and select “scan blank”.

**TABLE 14-4**
**List of Major Instruments**
**for Sampling and Analysis**

- MSA 360 $0_2$ /Explosimeter
- Geotech Geopump II AC/DC Peristaltic Pump
- QED MP50 Controller and QED Sample Pro MicroPurge Bladder Pimp
- Horiba U-53 Multi-Parameter Water Quality Meter
- LaMotte 2020WE Turbidity Meter
- EM-31 Geomics Electromagnetic Induction Device
- Mini Rae Photoionization Detectors (3,000, ppbRAE, etc.)

## 16.0 Internal Quality Control Checks

QC data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of field equipment. Field-based QC will comprise at least 10%

of each data set generated and will consist of standards, replicates, spikes, and blanks. Field duplicates and field blanks will be analyzed by the laboratory as samples and will not necessarily be identified to the laboratory as duplicates or blanks. For each matrix, field duplicates will be provided at a rate of one per 10 samples collected or one per shipment, whichever is greater. Field blanks which may consist of trip, routine field, and/or rinsate blanks will be provided at a rate of one per 20 samples collected for each media, or one per shipment, whichever is greater. Frequency of QC data may vary from project to project; refer to the project-specific work plan for QC requirements.

Calculations will be performed for recoveries and standard deviations along with review of retention times, response factors, chromatograms, calibration, tuning, and all other QC information generated. All QC data, including split samples, will be documented in the site logbook and/or appropriate field logs. QC records will be retained and results reported with sample data.

## 16.1 Field Blanks

Various types of blanks are used to check the cleanliness of field handling methods. The following types of blanks may be used: the trip blank, the routine field blank, and the field equipment blank. They are analyzed in the laboratory as samples, and their purpose is to assess the sampling and transport procedures as possible sources of sample contamination. Field staff may add blanks if field circumstances are such that they consider normal procedures are not sufficient to prevent or control sample contamination, or at the direction of the project manager. Rigorous documentation of all blanks in the site logbooks is mandatory.

- **Routine Field Blanks** or bottle blanks are blank samples prepared in the field to access ambient field conditions. They will be prepared by filling empty sample containers with deionized water and any necessary preservatives. They will be handled like a sample and shipped to the laboratory for analysis.
- **Trip Blanks** are similar to routine field blanks with the exception that they are **not** exposed to field conditions. Their analytical results give the overall level of contamination from everything except ambient field conditions. For the RI/FS, one trip blank will be collected with every shipment of water samples for VOC analysis. Each trip blank will be prepared by filling a 40-ml vial with deionized water prior to the sampling trip, transported to the site, handled like a sample, and returned to the laboratory for analysis without being opened in the field. Trip blanks may be provided by the laboratory, shipped with the bottleware, and kept with the sampling containers until analysis.
- **Field Equipment Blanks** are blank samples (sometimes called transfer blanks or rinsate blanks) designed to demonstrate that sampling equipment has been properly prepared and cleaned before field use, and that cleaning procedures between samples are sufficient to minimize cross contamination. If a sampling team is familiar with a particular site, they may be able to predict which areas or samples are likely to have the highest concentration of contaminants. Unless other constraints apply, these samples should be taken last to avoid excessive contamination of sampling equipment.

## 16.2 Duplicates

Duplicate samples are collected to check the consistency of sampling and analysis procedures. The following types of duplicates may be collected.

- **Blind duplicate** samples consist of a set of two samples collected independently at a sampling location during a single sampling event. Blind duplicates are designed to assess the consistency of the overall sampling and analytical system. Blind duplicate samples should not be distinguishable by the person performing the analysis.
- **Matrix Spike and Matrix Spike Duplicates (MS/MSDs)** consist of a set of three samples collected independently at a sampling location during a single sampling event. These samples are for laboratory quality control checks.