# PERIODIC REVIEW REPORT
# MAY 16, 2019 TO MAY 16, 2021

# QUEENS WEST (HUNTER POINT)
# PARCEL 8
# BETWEEN 47TH RD. & 48TH AVE.
# QUEENS, NEW YORK 11101
# BCP ID NO.: C241087

## PREPARED FOR:
## QUEENS BOROUGH PUBLIC LIBRARY
## 275 MADISON AVENUE, 37TH FLOOR
## NEW YORK, NY 11211

## JCB PROJECT #: 20-46491
## JUNE 2021

**J.C. BRODERICK & ASSOCIATES, INC.**
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## 1.0 Executive Summary

This Periodic Review Report (PRR) has been prepared by J.C. Broderick & Associates, Inc. (JCB), on behalf of the Queens Borough Public Library for the commercial property known as Queens West (Hunter Point) Parcel 8. The Site was accepted into the NYSDEC BCP through a Brownfield Cleanup Agreement (BCA) executed on March 30, 2005 (NYSDEC BCP Number: C241087). This report has been prepared to summarize the inspections and performances of the current Institutional Controls (ICs) and Engineering Controls (ECs) in use at the subject for the period May 16, 2019 through May 16, 2021 and document the overall progress of the current remedial activities.

The subject site is now the new Queens Borough Public Library located at 47-40 Center Boulevard, Queens, New York 11109. The subject site is located on the west side of Center Boulevard between 47th Road to the north and 48th Avenue to the south. The subject site consists of a 0.73-acre irregular parcel, which has been recently developed with a new multi-story building for the Queens Borough Public Library, Hunters Point Community Library. Remedial Investigations identified volatile organic and semi-volatile organic compounds in subsurface soils and groundwater beneath the subject site.

The ICs and ECs at the subject site are in compliance with the Site Management Plan (SMP). The ICs and ECs applied at the site are in place and unchanged from the previous PRR certification. Nothing has occurred that would impair the ability of such controls to protect the public health and the environment or constitute a violation or failure to comply with any element of the SMP for such controls. Access to the Site will continue to be provided to the NYSDEC to evaluate the remedy.

The Sub-Slab Depressurization System (SSDS) has been in operation since August 7, 2019. The operation of the SSDS will continue until the remedial objectives have been achieved, or until the Department determines that continued operation is no longer needed.

Based on the results of the most recent sampling and testing, a reduction in the concentrations of naphthalene and benzene in the groundwater tested was observed. It is JCB's opinion that the installation of the proposed replacement wells, and redevelopment of the existing monitoring well network will provide a comprehensive assessment of the groundwater aquifer and the performance and effectiveness of the remedy.

Activities at the subject are in general compliance with the SMP. No changes to the SMP are recommended at this time. All Engineering Controls employed at this site are unchanged since the date that the Control was put in place. No changes to the Engineering Controls are recommended. No changes are recommended in the basic O&M plan.

The Periodic Review Report will continue to be submitted to the Department every year. The Periodic Review Report will be prepared in accordance with NYSDEC DER-10 and submitted within 30 days of the end of each certification period. No changes to the frequency for the submittal of the PPR are recommended at this time.

During this reporting period, the requirements for discontinuing site management have not been met. The next reporting period is May 16, 2021 through May 16, 2022. The PRR will be submitted to the Department no later than June 15, 2022.

## 2.0 Site Overview

### 2.1 Site Location and Description

The subject site is located at Queens West (Hunters Point) Parcel 8, now the new Queens Borough Public Library located at 47-40 Center Boulevard, Queens, New York 11109. The subject site is located on the west side of Center Boulevard between 47th Road to the north and 48th Avenue to the south. According to the United States Geological Survey (USGS) *Brooklyn, New York, 1995* 7.5 Minute Series Topographical Map, the subject site is situated at an approximate elevation of 15 feet (ft) above mean sea level. The subject site is designated as Block 199, Lot 21 on the Tax Map of the City of New York. The location of the subject site is shown on the Site Location Map, Figure-1.

The subject site consists of a 0.73-acre irregular parcel, which has been recently developed with a new multi-story building for the Queens Borough Public Library, Hunters Point Community Library (Figure 2). The surrounding area is characterized by a mix of commercial businesses (mostly retail), as well as residential properties. To the north of the subject site is a multi-story residential building with retail stores on the first floor. To the east, across Central Boulevard is a multi-story residential building with a child daycare facility on the first floor. To the south and west of the subject site is a portion of Gantry Plaza State Park and the East River.

### 2.2 Background Information

The Queens West (Hunters Point) Parcel 8 site is in the NYSDEC Brownfield Cleanup Program (NYSDEC Site No. C241087). Avalon Riverview II LLC and Avalon Riverview North1 LLC and Queens West Development Corp., or QWDC (collectively, the Volunteer) entered into a Brownfield Cleanup Agreement with the NYSDEC to remediate the site. The approved site remedial action was implemented under the oversight of the Volunteer's environmental consultant, Fleming-Lee Shue, Inc. (FLS) of New York, NY. The City of New York agreed to assume responsibility for the site remediation in May 2015. Redevelopment of the site was conducted under the conditions of the NYSDEC-approved Site Management Plan (SMP) dated December 2011 and revised November 2014. The annual inspection and the preparation of this PRR were performed in accordance with the SMP. An updated PRR Certification Form is provided in Attachment 1.

Because certain work elements (completion of the sub-slab depressurization system and final cover installation) were completed during this reporting period, LiRo provided a Revised PRR dated September 20, 2019, to document those work elements. The NYSDEC approved the Revised PRR on March 23, 2020, with a request to update the Site Management Plan (SMP) with as-built drawings. The Revised PRR and approval letter is provided in Attachment 3.

As part of the lease agreement the Queens Borough Public Library will take over the SMP-required monitoring and reporting. During this reporting period, the NYSDEC in a letter dated July 10, 2019, requested the re-installation of groundwater monitoring wells that were destroyed during construction and expanding the period between sampling to every five quarters or to every 15 months. The NYSDEC approved the Corrective Measures Work Plan (CMWP) dated March 23, 2021, prepared by Fleming Engineering detailing the replacement, development, and monitoring and sampling of the expanded well network.

**Nature of Soil Contamination**

As reported in a 2008 Parcel 8 Remedial Investigation Report, Benzene was the only volatile organic compound exceeded the SCO of 44,000 ug/kg in SB-29 (13-15 ft-bg) at a concentration of 115,000 ug/kg.

SVOCs were reported at concentrations in excess of the SCOs in several soil borings at varying depths. The SVOCs reported in excess of the SCOs are members the PAHs, which are often present in historic urban fill and are also components of products such as fuel oils, coal tars, and creosote. SCO exceedances for PAHs were reported in all samples collected from the 2 to 4 ft bg depth interval, which consists of historic urban fill. In general, the highest elevated concentrations of PAHs were reported in samples collected from soils exhibiting visual indications of NAPL. In particular, soil samples SB-29 (13-15 ft), SB-29 (19-20 ft), SB-35 (18-20 ft), MW-22 (12-13 ft), MW-22 (17.5-18.5 ft), SB-26 (13-14.5 ft), and SB-26 (19-21ft), which exhibited visual indications of coal tar/creosote, were reported as containing the highest concentrations of PAHs. Soil samples containing elevated concentrations of PAHs largely consisted of medium to coarse sands collected from approximately 12 to 31 ft bg, which is within the saturated zone.

Below two feet, arsenic exceeded the SCO of 16 mg/kg in four locations: SB40 (2-4'), 17.5 mg/kg; SB35 (2-4'), 17.8 mg/kg; MW22 (12-13'), 24 mg/kg; and QW-SB-7(7-9'), 19.5 mg/kg. Copper exceeded the SCO of 270 mg/kg in one location: SB36 (2-4'), 325 mg/kg. All other toxic metal results were below the SCOs.

Only one sample location greater than two feet below grade contained PCBs above the SCO of 1,000 ug/kg. Total PCBs in Sample SB31 (2-4') measured 55,100 ug/kg.

**Nature of Groundwater Contamination**

Residual NAPL was observed in 12 of the 16 soil borings. It occurred in individual lenses that ranged in thickness from 0.5 feet or less to 14 feet. Overall, residual NAPL thickness ranged from 1 foot to approximately 17 feet. A lens is a discrete bond versus the overall thickness, which is the distance from the top of where NAPL appeared to the last depth where it appeared. Typically, NAPL first appeared near the water table, approximately 9 to 11 ft-bg, and continued to approximately 23 to 25 ft-bg and 27 to 30 ft-bg.

BTEX concentrations in groundwater ranged from 1 ug/L to 24,120 ug/L. The middle 50 percent of the results lie within approximately 1,240 ug/L and 4,330 ug/L. The three highest measurements appear in samples MW-16(S), 21,220 ug/L; MW-9(D), 21,610 ug/L; and MW 14(S), 24,120 ug/L, all of which are in the middle and southwest corner of Parcel 8. (MW-9 and MW-16(S) is a nested pair.) The two off-Site, upgradient wells, MW-2(D) and MW-8(D) also contained BTEX in concentrations of 1,946 ug/L and 563 ug/L, respectively.

The SVOCs detected are essentially all PAHs and phenol. Acenaphthene concentrations ranged from 1 ug/L to 405 ug/L with a median concentration of 227 ug/L. Acenaphthene exceeded the TOGS GA criterion of 20 ug/L in all samples except in MW10. Benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(g,h,i)perylene were below detection limits in most wells, but exceeded their collective TOGS GA criterion of 0.002 ug/L in four wells where their concentrations ranged from 1.9 ug/L to 27 ug/L. All of the detections of these compounds at concentrations greater than 1 ug/L occurred in four shallow wells: MW14(S), MW16(S), MW20(S), and MW23(S). Chrysene and benzo(a) anthracene and exceeded their collective TOGS GA criterion of 0.002 ug/L in six and eight wells, respectively, where their concentrations ranged from 0.41 ug/L to 27.3 ug/L. All of the concentrations of these compounds greater than 1 ug/L occurred in shallow wells: MW14(S), MW16(S), MW20(S), MW23(S), MW-17(S), and MW-21(S). The exception was with the exception of benzo(a) anthracene in MW-15 (D) and MW-19 (D) where it measured 0.14 ug/L and 0.44 ug/L, respectively.

Naphthalene concentrations ranged from ND to 17,300 ug/L in MW-11 (D). Naphthalene was below detection limits in four wells, MW-23 (S), MW-15 (D), MW-8 (D), off-Site, and MW- 12 (D). The concentrations greater than 5,000 ug/L occurred in an hourglass-shaped pattern in wells near the

middle, northwest, southwest, and southeast corners of the Site. The average naphthalene concentrations were approximately 1.6 times greater in the deeper wells (average of 10.1 mg/L) than the shallow wells (6.5 mg/L).

Arsenic concentrations in wells on Parcel 8 ranged from ND to 21.5 ug/L which are all below the TOGS 1.1.1 AGWS criterion of 25 ug/L. Lead exceeded the TOGS criterion of 25 ug/L in two samples: MW-20(S), 27.9 ug/L and MW14(S), 66 ug/L. Mercury was ND in all wells except for MW-14(S) where it measured 1.1 ug/L compared to the TOGS criterion of 0.7 ug/L. Manganese concentrations ranged from approximately 89 ug/L to 2,160 ug/L. Manganese exceeded the TOGS criterion of 300 ug/L in a few wells and the highest concentration occurred at MW-14(S) where other metals were elevated due to reducing conditions.

**Nature of Soil Vapor Contamination**

Shallow soil gas sampling was conducted to assess whether shallow soil contains unacceptable levels of contaminants and to assess the potential for soil gas to enter a structure. Benzene concentrations ranged from ND to a maximum concentration of 37.4 ppbv. Benzene was ND in 2 out of 11 samples. The median concentration measured 2.7 ppbv and the mean 8.5 ppbv. Toluene concentrations ranged from ND to a maximum concentration of 21.2 ppbv. Toluene was detected in 10 out of 11 samples. The median concentration measured 3.8 ppbv and the mean 5.5 ppbv. Naphthalene, despite occurring at elevated concentrations at depth, in both soils and groundwater, was barely detectable in the shallow soil gas. Naphthalene was detected in 2 out of 11 samples. The maximum naphthalene concentration was 3 ppbv.

## 2.3 Remedial Program

**Excavation**

Remove all soil on Parcel 8 from grade to 4 ft-bg. This aspect of the remedial action will remove a significant portion of Site soils that exceed the Commercial Use SCOs. Remove Hot Spot areas that exceed the Commercial Use SCOs for copper, barium, or arsenic, and PCBs to the depth of the water table and/or the maximum depth possible without sheeting or shoring. Bottom and sidewall post-excavation samples were collected to identify any residual concentrations for future site management.

From October 18, 2011, through December 5, 2011, approximately 7,665 tons of contaminated soil were removed by excavation and transported to Soil Safe, Inc., Logan Twp., New Jersey, CWM Chemical Services, LLC, Model City, New York, and Atlantic Counties Utility Authority, Egg Harbor Twp. New Jersey by certified waste haulers.

**Soil / Groundwater Treatment**

The treatment remedy for Parcel 8 was in situ chemical injection using sodium persulfate, sodium hydroxide, and a plant-based surfactant. Sodium persulfate was the oxidant and was activated by the addition of sodium hydroxide to raise the pH. The plant-based surfactant, VeruSOL®, was added to aid in the dissolution of the coal tar to make it available for chemical oxidation. In all, 334,000 lbs. of sodium persulfate, 136,300 lbs. of sodium hydroxide and 65,000 lbs. of surfactant were injected over a 5-month treatment period (October 25, 2010, through March 30, 2011). The bulk of the treatment targeted the zone from 10 feet below grade (ft-bg) to 22 ft-bg. Using randomly selected pre-treatment soil samples, an estimated 47,000 lbs. of coal tar contaminant was slated for treatment. Treatment was completed using the RemMetrik® process, which, in this instance, used subsurface pressure waves generated by Wavefront Technology Solutions Inc. Primawave™ process.

No significant changes to the selected remedy have been made since remedy selection.

**Soil Cover System**

Exposure to remaining contamination in soil/fill at the site is prevented by a Soil Cover system currently present over the site. The installation of the Soil Cover system consisting of, at a minimum, 2 feet of clean soil and/or 6 inches of asphalt or concrete. The final composite cover system includes the library and park ranger station foundations, which are slab-on-grade construction that does not extend beneath the demarcation layer.

No significant changes to the selected remedy have been made since remedy selection.

## 3.0 IC/EC Plan Compliance Report

Since remaining contaminated soil, groundwater and soil vapor exists beneath the site, Institutional Controls (ICs) and Engineering Controls (ECs) were put in place to protect human health and the environment.

### 3.1 IC/EC Requirements and Compliance

The IC/ECs at the Site are in compliance:

- The ICs and ECs applied at the site are in place and unchanged from the previous certification in the FER and subsequent Period Review Reports,
- Nothing has occurred that would impair the ability of such controls to protect the public health and the environment, or constitute a violation or failure to comply with any element of the SMP for such controls, and,
- Access to the Site will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of such controls.

### 3.2 Institutional Controls

The Site remedy requires that an environmental easement be placed on the property to (1) implement, maintain, and monitor the Engineering Controls; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and (3) limit the use and development of the site to commercial or industrial uses only.

The environmental easement for the site was executed by the Department on August 25, 2011 and filed with the New York County Clerk on September 14, 2011. The County Recording Identifier number for this filing is 2011000326218. A copy of the easement and proof of filing is provided in the FER.

All Institutional Controls employed at this site are unchanged since the date that the ICs were put in place, specifically:

- The required Engineering Controls (ECs) have been implemented, maintained, and monitored,
- No disturbances of the subsurface contamination have occurred that would allow for exposure to contamination, and,
- Site use remains restricted to residential, commercial, mixed-use, or industrial uses only. No redevelopment has occurred. The Site is currently a parking lot as it was prior to this reporting period.

No changes to the Institutional Controls are recommended.

### 3.3 Engineering Controls

Exposure to remaining contamination in soil/fill is prevented by a Soil Cover system currently present over the site. This cover system is comprised of a minimum of two feet of NYSDEC-approved fill and/or six inches of asphalt paving or concrete underlain by a demarcation layer to delineate the cover soil from the subsurface soil. The final composite cover system includes the library and park ranger

station foundations, which is slab-on-grade construction that does not extend beneath the demarcation layer.

On June 30, 2020, an Annual Site Wide Inspection was performed by Steven Muller. No deformities or holes that could compromise the cover system were observed during the annual site wide inspection.

Soil vapor barriers were installed beneath the library and park ranger station buildings. These barriers were installed with a minimum of 20-mil PVC sheeting below the concrete floor slabs and have continuous water stops at the construction joints and utility openings. Although the soil vapor barrier cannot be inspected, no foundation cracks or new slab penetrations were observed during the annual site wide inspection.

In addition, the site has a sub-slab depressurization system (SSDS) below the vapor barrier to further minimize potential of soil vapor intrusion. The SSDS became operation on August 7, 2019. System baseline and start-up testing indicate that the system is performing in compliance with SSDS requirements. The operation of the SSDS until the Department determines that continued operation is no longer necessary.

The system has operated consistently since inception.

All Engineering Controls employed at the subject site are unchanged since the date that the Engineering Controls were put in place.

No changes to the Engineering Controls are recommended.

## 3.4 IC/EC Certification

The completed Site Management Periodic Review Report Notice Institutional and Engineering Controls Certification Form is attached in Attachment 1.

## 4.0 Monitoring Plan Compliance Report

Remedial activities were completed at the site in August 2019 in compliance with the NYSDEC-approved RAWP and residual contamination is managed under the requirements of the SMP.

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the site, the Soil Cover system, and all affected site media.

### 4.1 Components of the Monitoring Plan

The components of the Monitoring Plan Include:

**Table No.: 1**
**Monitoring Components**

| Monitoring Program | Frequency | Matrix | Analysis |
|---|---|---|---|
| Cover System | Annual | Ground Surface | Visual |
| On-Site Monitoring Well Network | Every 15 Quarters | Groundwater | See List |
| SSDS Equipment | Quarterly | Equipment | Visual, Pressure, Flow |

**Soil Cover System Monitoring**

Exposure to remaining contamination in soil/fill at the site is prevented by a soil cover system placed over the site. Subsequent to the site remedial excavation work, FLS documented the placement of the Site demarcation layer across the entire site at elevations ranging from -3 feet above mean sea level (amsl), Queens Borough Datum to 4 feet amsl. FLS placed recycled concrete aggregate (RCA) meeting site use criteria at thicknesses ranging from 3 feet to 6 feet above the demarcation layer. During construction of the library, additional soil meeting site reuse criteria was imported for the final cover system. The final site cover consists of the site building slabs, lawn/landscape areas, concrete sidewalk areas and concrete plank covered areas. The final site grades range from approximately 10 feet to 11.5 feet amsl. The thickness of the cover is in excess of 4 feet in all locations across the Site.

In conjunction with the final cover work, existing well casings in the lawn area were modified to meet final site grades and new at-grade steel outer casings were installed. The new modified casing elevations are as follows: MW-9 (10.81 feet amsl); MW-10 (10.82 feet amsl); MW-16S (11.82 feet amsl).

On June 30, 2020, an Annual Site Inspection was performed by Steven Muller. No deformities or holes that could compromise the cover system were observed during the Annual Site Inspection.

**On-Site Monitoring Well Network**

The monitoring well network was gauged on a quarterly schedule by various environmental contractors. JCB began provided monitoring and reporting services for the Queens Borough Public Library in December 2019.

The monitoring well network was sampled on December 20, 2019. The well locations requiring gauging as per the NYSDEC were MW-26S, MW-26D, MW-27S, and MW-27D, which are located in Peninsula Park and Gantry Plaza State Park; however, in accordance with the SMP, due to the

presence of a DNAPL layer observed within monitoring well MW-27D, it was not sampled. In addition, MW-26D could not be accessed; therefore, it was not sampled.

Prior to sampling, the volume of water within each monitoring well was calculated using the well diameter and water column height. Each well was purged utilizing a low-flow, Masterflex E/S Portable Peristaltic Sampler, to ensure minimal generation of suspended solids, minimize the volatilization of contaminants in the groundwater, acquire a more representative localized groundwater sample from the contaminated plume, and minimize the volume of groundwater purged. Groundwater chemistry was monitored utilizing the flow-through chamber of an YSI 556 Multi-Probe handheld groundwater chemistry meter and recorded every five (5) minutes until the groundwater chemistry stabilized.

Monitored parameters consisted of temperature, pH, dissolved oxygen (DO), Specific Conductivity, oxidation reduction potential (ORP) and turbidity. The monitoring well was considered stabilized and ready for sampling when the readings remain in the following ranges: ±10% for Temperature; ±0.1 for pH; ±10% for Dissolved Oxygen; ±3% for Specific Conductance (Conductivity); ±10 mv for Redox Potential (ORP). All samples were collected utilizing new and dedicated sampling equipment, were placed into laboratory-supplied containers, assigned individual identification numbers and then placed into an appropriately conditioned cooler. Chain of custody documents were prepared, and the samples were then delivered to York Analytical Laboratories, Inc. (York) of Stratford, Connecticut for analysis. All groundwater samples collected were analyzed for the following parameters:

- Target Compound List (TCL) volatile organic compounds (VOCs), United States Environmental Protection Agency (USEPA) Method 8260C;
- TCL semi-volatile organic compounds (SVOCs), USEPA Method 8270D;
- Total Petroleum Hydrocarbon Diesel Range Organics/Gasoline Range Organics (TPHC DRO/GRO), USEPA Method 8015C;
- Total Iron, USEPA Method 6010;
- Alkalinity, USEPA Method 310.1;
- Sulfate, USEPA Method 300.

Quality assurance/quality control (QA/QC) samples were collected during sampling and included one (1) field blank and one (1) trip blank.

**SSDS Operation**

Monitoring the operation of the SSDS included visual inspection of the vacuum gauges to evaluate the status of the blowers for proper operation:

## 4.2 Summary of Monitoring Completed During Reporting Period

The following summarizes monitoring activities at the site conducted during this monitoring period. JCB conducted quarterly SSDS inspections, groundwater monitoring and sampling at a reduced 15 quarter schedule, and annual soil cover system inspection at the subject site from December 2019 through May 2021.

| Table No.:2<br>Summary of Site Monitoring | | | |
|---|---|---|---|
| **Site Inspection Date** | **Cover System** | **On-Site Monitoring Well Network** | **SSDS Operation** |
| 12/20/2019 | | X | X |
| 03/25/2020 | | Building Closed | |
| 06/30/2020 | X | | X |
| 09/24/2020 | | | X |
| 12/30/2020 | | | X |
| 03/23/2021 | | | X |

## 4.3 Comparisons with Remedial Objectives

Groundwater analytical results for the fourth quarter 2019 samples are available in the 4th Quarter 2019 Quarterly Status Report provided in Attachment 4. To be consistent with previous reporting, the trends for benzene and naphthalene are discussed and summarized below.

**Table No.: 3**
**Summary of Benzene and Naphthalene Detections September 2017 – December 2019**

| Well ID | Compound | Sample Date | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 09/2017 | 12/2017 | 03/2018 | 06/2018 | 09/2018 | 12/2018 | 03/2019 | 06/2019 | 12/2019 |
| MW-24S | Benzene | NS | NS | 6.5 | NS | NS | NS | 0.83 | NS | NS |
| | Naphthalene | NS | NS | 180 | NS | NS | NS | ND | NS | NS |
| MW-24D | Benzene | NS | NS | 30.9 | NS | NS | NS | 10.5 | NS | NS |
| | Naphthalene | NS | NS | 370 | NS | NS | NS | ND | NS | NS |
| MW-25S | Benzene | NS | NS | 12.2 | NS | NS | NS | 0.49 | NS | NS |
| | Naphthalene | NS | NS | ND | NS | NS | NS | ND | NS | NS |
| MW-25D | Benzene | NS | NS | ND | NS | NS | NS | ND | NS | NS |
| | Naphthalene | NS | NS | ND | NS | NS | NS | ND | NS | NS |
| MW-26S | Benzene | 3,900 | 3,200 | 3,000 | 4,100 | 3,200 | 4,000 | 3,300 | 4,100 | 3,400 |
| | Naphthalene | 3,500 | 250 | 6,100 | 5,600 | 5,000 | 4,300 | 1,500 | 10,900 | 9,820 |
| MW-26D | Benzene | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| | Naphthalene | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| MW-27S | Benzene | 700 | 360 | 640 | 810 | 1,200 | 150 | 380 | 490 | 52.0 |
| | Naphthalene | 75.1 | 34.2 | 240 | 94 | 71.9 | 35.4 | 98.7 | 57.9 | 3.95 |
| MW-27D | Benzene | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| | Naphthalene | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| MW-30S | Benzene | NS | NS | NS | NS | ND | NS | ND | NS | NS |
| | Naphthalene | NS | NS | NS | NS | ND | NS | ND | NS | NS |
| MW-30D | Benzene | 89.5 | NS | 440 | NS | 72.8 | NS | 850 | NS | NS |
| | Naphthalene | 7,800 | NS | 3,900 | NS | 7,500 | NS | 9,100 | NS | NS |

**Notes**:
Reported Concentrations in µg/L = parts per billion
NS = Not Sampled
ND = Not Detected Above Laboratory Minimum Detection Limit

The December 2019 benzene data reported decreased concentrations (compared to the most recent previous sample for each well) at wells MW-26S and MW-27S. The benzene concentration at MW-26S is generally consistent with previous quarterly/semiannual sampling result trends. The December 2019 benzene concentration at MW-27S is significantly lower than previous quarterly/semiannual sampling results.

The December 2019 naphthalene data reported decreased concentrations (compared to the most recent previous sample for each well) at wells MW-26S and MW-27S. The naphthalene concentration at MW-26S slightly decreased from the highest level reported in the past two years.

The December 2019 naphthalene concentration at MW-27S is significantly lower than previous quarterly/semiannual sampling results.

## 4.4 Monitoring Deficiencies

The 2nd Quarter 2021 monitoring well gauging and sampling was not performed in March 2021. On March 23, 2021, Fleming Engineering prepared a Corrective Measures Work Plan (CMWP) for the installation of replacement wells that were destroyed during redevelopment. The CMWP also includes the sampling of the new monitoring wells along with the existing groundwater monitoring well network. On May 24, 2021, the NYSDEC approved the CMWP as a result JCB postponed the quarterly sampling to include the new replacement monitoring wells.

## 4.5 Conclusions and Recommendations for Changes

The current monitoring network is adequate to evaluate the remedy and engineering controls.

No other recommendations for changes to the monitoring system are being made.

# 5.0 Operation & Maintenance (O&M) Plan Compliance Report

## 5.1 Components of O&M Plan

**Cover System**

The cover system currently associated with the site (and any modified cover system associated with site improvements when it occurs) will be monitored annually. This inspection is to identify deformities such as cracks, or holes which may compromise the cover system. If deformities are observed, necessary repairs will be made and reported in the Periodic Review Report.

**Sub-Slab Depressurization System**

The SSDS provides a vacuum beneath the vapor barrier and captures any fugitive contaminated soil vapor that may be present and preventing them from entering the buildings.

To ensure proper operation of the system, the vacuum on the influent air should not exceed the manufacturer's high vacuum switch setting. An adjustable high vacuum switch is pre-set at the factory to shut down the blower when the vacuum exceeds the blower rating. Vacuum in excess of the specified values can overheat and damage the blower motor. Monitor the vacuum by referring to the vacuum gauge mounted closest to the blower.

Maintenance of the SSDS includes checking vacuum gauges to ensure that maximum vacuum is not exceeded, check all switches for proper operation, check all wiring for loose connections, and check for loose fittings and bolts.

Suspect or malfunctioning instrumentation will be tested, calibrated, repaired or replaced as the situation indicates.

The operation of the components of the SSDS will continue until the Department determines that continued operation is no longer needed.

## 5.2 Summary of O&M Completed During Reporting Period

No O&M was required during this monitoring period.

## 5.3 Evaluation of Remedial Systems

Each component of the remedy subject to the O&M requirements performed as designed/expected.

## 5.4 O&M Deficiencies

No deficiencies in complying with the O&M Plan was identified during this PRR reporting period.

## 5.5 Conclusions and Recommendations for Improvements

No Changes are recommended in the basic O&M Plan.

## 6.0 Overall PRR Conclusions and Recommendations

The remedy continues to be adequately managed as set forth in the SMP and continues to be protective of human health and the environment. The subject site is in general compliance with the applicable requirements as presented in the SMP.

### 6.1 Compliance with SMP

Activities at the subject site are in substantial compliance with the SMP.

### 6.2 Performance and Effectiveness of the Remedy

The reported data indicates a reduction in the concentrations of naphthalene and benzene in the groundwater tested. It is JCB's opinion that the installation of the proposed replacement wells, and redevelopment of the existing monitoring well network will provide a comprehensive assessment of the groundwater aquifer and the performance and effectiveness of the remedy.

### 6.3 Future PRR Submittals

The Periodic Review Report will continue to be submitted to the Department every year as required by the SMP.

# ATTACHMENT 1:
# IC/EC Certification Form
# and
# Site Inspection Form


**J.C. Broderick & Associates, Inc.**
*Environmental Consulting & Testing*
1775 Expressway Drive, North
Hauppauge, New York 11788
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Enclosure 2

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**
**Site Management Periodic Review Report Notice**
**Institutional and Engineering Controls Certification Form**

**Site Details** **Box 1**

**Site No.** **C241087**

**Site Name Queens West (Hunter's Point) Parcel 8**

Site Address: Center Blvd. and 47th Rd. and 48th Ave. Zip Code: 11101
City/Town: Long Island City
County: Queens
Site Acreage: 0.736

Reporting Period: May 16, 2019 to May 16, 2021

| | YES | NO |
|---|---|---|
| 1. Is the information above correct? | X | ☐ |
| If NO, include handwritten above or on a separate sheet. | | |
| 2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period? | ☐ | X |
| 3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))? | ☐ | X |
| 4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period? | ☐ | X |
| **If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.** | | |
| 5. Is the site currently undergoing development? | ☐ | X |

**Box 2**

| | YES | NO |
|---|---|---|
| 6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial | X | ☐ |
| 7. Are all ICs in place and functioning as designed? | X | ☐ |

**IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

Signature of Owner, Remedial Party or Designated Representative Date

**Box 2A**

| | YES | NO |
|---|---|---|
| 8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid? | ☐ | X |

**If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.**

| | | |
|---|---|---|
| 9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years) | X | ☐ |

**If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.**

**SITE NO. C241087** **Box 3**

**Description of Institutional Controls**

| Parcel | Owner | Institutional Control |
|---|---|---|
| **19-21** | Queens West Development Corporation | Landuse Restriction<br>Monitoring Plan<br>O&M Plan<br><br>Ground Water Use Restriction<br>Soil Management Plan<br>Site Management Plan<br>IC/EC Plan |

(I) Tbe Controlled Property may be used for Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial
as described in 6 NYCRR Part 375-1.8(g)(2)(iv);
(2) All Engineering Controls must he operated and maintained as apecified in the Site Management Plan (SMP);
(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP.
(4) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;
(5) Data and information pertinent to Site Management oftbe Controlled Property must be reported at the frequency and in a manner defined in the SMP;
(6) All future activities on the property that will distUrb remaining contaminated material must be conducted in accordance with the SMP;
(7) Monitoring to assess the performance and effectiveness of the remedy must he perfonoed as defined in the SMP;
(8) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall he performed as defined in the SMP;
(9) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property ownCI'to
assure·compliance with the restrictions identified by this Enviromnental Easement.

**Box 4**

**Description of Engineering Controls**

| Parcel | Engineering Control |
|---|---|
| **19-21** | Cover System<br>Vapor Mitigation |

The Engineering Controls for this Site include a composite cover over the entire site and a vapor barrier plus sub-slab depressurization system for any occupied structures to be built on the site.

**Box 5**

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the Engineering Control certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

| YES | NO |
|---|---|
| X | ☐ |

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

   (a) The Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

| YES | NO |
|---|---|
| X | ☐ |

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

Signature of Owner, Remedial Party or Designated Representative

Date

**IC CERTIFICATIONS**
**SITE NO. C241087**

**Box 6**

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Steven Muller (print name) at 1775 Express Drive N., Hauppauge, NY 11788 (print business address),

am certifying as Designated Representative (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

June 11, 2021
Date

## EC CERTIFICATIONS

**Box 7**

**Professional Engineer Signature**

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Malcolm I. Barkan (print name) at 32 Empress Pines Drive, Nesconset, NY 11767 (print business address),

am certifying as a Professional Engineer for the Tenant (Owner or Remedial Party)


Malcolm I. Barkan — June 28, 2021

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification — Stamp (Required for PE) — Date

# SITE INSPECTION FORM

**Queens West (Hunter's Point) Parcel 8**
**Long Island City, NY**

**Inspector:** STEVEN MULLER, JCB

**Date:** 6/30/20

## 1. Landscaped Areas

Adequate top soil cover present? YES

Signs of Erosion? NO

Recommended corrective action, if needed. NONE

## 2. Outdoor paving/sidewalks

Note any signs of cracking or other damage NONE

Note any areas where greater than 25% of surface is cracked/damaged NONE

Recommended corrective action, if needed. NONE

## 3. Lower level garage slab

Note any signs of cracking or other damage NONE

Note any areas where greater than 25% of surface is cracked/damaged NONE

Recommended corrective action, if needed. NONE

Signature/Date

## MONTHLY SUB-SLAB DEPRESSURIZATION SYSTEM INSPECTION

**Queens West (Hunter's Point) Parcel 8**
**Long Island City, NY**

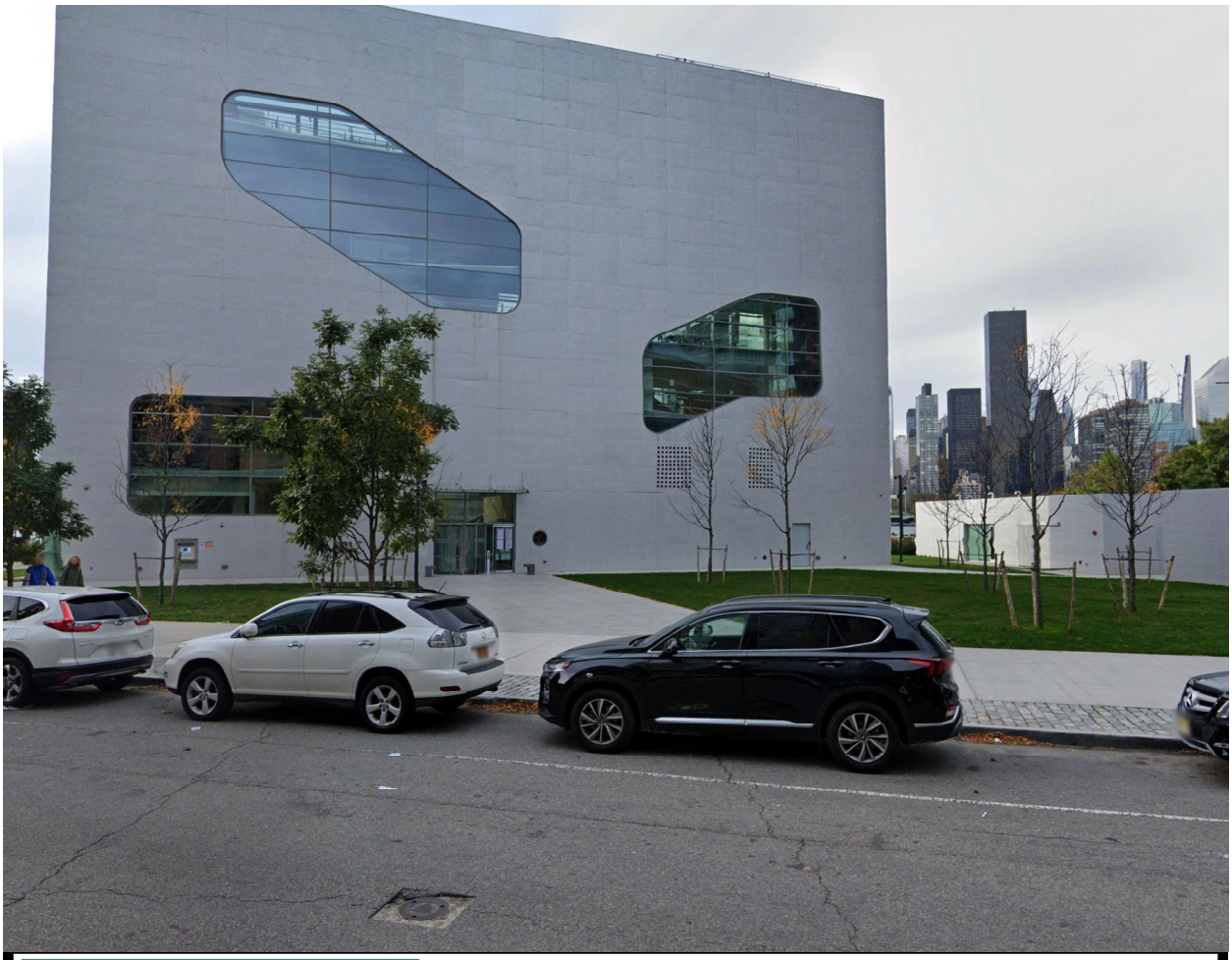
| | | | | | |
|---|---|---|---|---|---|
| Date of SSDS monthly inspection: | 12/20/2019 | System Operational: | [X] | Yes | [ ] No |
| Name/Title of inspector: | STELLA Mmuo, JCB | | | | |
| Date of SSDS monthly inspection: | 6/20/20 | System Operational: | [X] | Yes | [ ] No |
| Name/Title of inspector: | S. Mmuo, J.C.B | | | | |
| Date of SSDS monthly inspection: | 9/24/20 | System Operational: | [X] | Yes | [ ] No |
| Name/Title of inspector: | S. Mmuo, JCB | | | | |
| Date of SSDS monthly inspection: | 12/30/2020 | System Operational: | [X] | Yes | [ ] No |
| Name/Title of inspector: | S. Mmuo JCB | | | | |
| Date of SSDS monthly inspection: | 3/20/21 | System Operational: | [X] | Yes | [ ] No |
| Name/Title of inspector: | S. Mmuo, JCB | | | | |
| Date of SSDS monthly inspection: | | System Operational: | [ ] | Yes | [ ] No |
| Name/Title of inspector: | | | | | |
| Date of SSDS monthly inspection: | | System Operational: | [ ] | Yes | [ ] No |
| Name/Title of inspector: | | | | | |
| Date of SSDS monthly inspection: | | System Operational: | [ ] | Yes | [ ] No |
| Name/Title of inspector: | | | | | |
| Date of SSDS monthly inspection: | | System Operational: | [ ] | Yes | [ ] No |
| Name/Title of inspector: | | | | | |
| Date of SSDS monthly inspection: | | System Operational: | [ ] | Yes | [ ] No |
| Name/Title of inspector: | | | | | |
| Date of SSDS monthly inspection: | | System Operational: | [ ] | Yes | [ ] No |
| Name/Title of inspector: | | | | | |
| Date of SSDS monthly inspection: | | System Operational: | [ ] | Yes | [ ] No |
| Name/Title of inspector: | | | | | |

Note: If SSDS is not operational, fill out a System Malfunction Report and contact Fleming-Lee Shue Inc. at (212) 675-3225.

# ATTACHMENT 2:
# Site Photolog


**J.C. Broderick & Associates, Inc.**
***Environmental Consulting & Testing***
**1775 Expressway Drive, North**
**Hauppauge, New York 11788**

**Subject Site**



# Field Photograph Log

**New York State**
**Brownfield Cleanup Program**

**Queens West (Hunters Point) Parcel 8**
**47-40 Center Boulevard**
**Queens, New York 11101**
**BCP ID No.: C241087**

**Photo No. 01**

**JCB#: 20-46491**

**Typical Groundwater Monitoring Well Sampling**


# Field Photograph Log

**New York State**
**Brownfield Cleanup Program**

**Queens West (Hunters Point) Parcel 8**
**47-40 Center Boulevard**
**Queens, New York 11101**
**BCP ID No.: C241087**

**Photo No. 02**

**JCB#: 20-46491**

**SSDS Blower Location on Roof**


# Field Photograph Log

**New York State**
**Brownfield Cleanup Program**

**Queens West (Hunters Point) Parcel 8**
**47-40 Center Boulevard**
**Queens, New York 11101**
**BCP ID No.: C241087**

**Photo No. 03**

**JCB#: 20-46491**

**SSDS Gauge Package**


# Field Photograph Log

**New York State**
**Brownfield Cleanup Program**

**Queens West (Hunters Point) Parcel 8**
**47-40 Center Boulevard**
**Queens, New York 11101**
**BCP ID No.: C241087**

**Photo No. 04** **JCB#: 20-46491**

# ATTACHMENT 3:
# 2018-2019 Periodic Review Report Update


**J.C. Broderick & Associates, Inc.**
*Environmental Consulting & Testing*
1775 Expressway Drive, North
Hauppauge, New York 11780

# Revised NYSDEC Periodic Review Report: May 16, 2018 – May 16, 2019
# Queens West (Hunters Point) Parcel 8
# Parcel West of Center Boulevard between 47th Road and 48th Avenue
# NYSDEC Site ID: C241087
# Queens, NY 11101

NYCDDC PROJECT NO. LQD122-QW

WORK ORDER NO. 15458-LIRO-3-R-15190

CONTRACT REGISTRATION NO. 20181405131

Prepared for:

NYC DDC Department of Design and Construction

Office of Environmental and Geotechnical Services
30-30 Thomson Avenue, Third Floor
Long Island City, New York 11101

Prepared by:

LiRo Engineers, Inc.
703 Lorimer Street
Brooklyn, New York 11211

PROJECT NO. 17-155-0265

June 14, 2019

Revised January 6, 2020

# TABLE OF CONTENTS



## Figures



## Attachments



## Appendix

# 1.0 INTRODUCTION

## 1.1 Background Information

On behalf of the New York City Department of Design and Construction (NYCDDC) Office of Environmental and Geotechnical Services (OEGS), LiRo Engineers, Inc. (LiRo) conducted an annual inspection on May 30, 2019 and prepared this New York State Department of Environmental Conservation (NYSDEC) Periodic Review Report (PRR) for the period May 16, 2018 through May 16, 2019. The PRR was prepared to document the implementation and compliance with the specific site management requirements at the construction site for the new Queens West Hunters Point Community Library located at Parcel 8, west of Center Boulevard between 47th Road and 48th Avenue, Queens, New York (Figure 1). The parcel is approximately 0.73 acres and currently is an active construction site. The locations of the groundwater monitoring wells are shown on Figure 2.

The Queens West (Hunters Point) Parcel 8 site is in the NYSDEC Brownfield Cleanup Program (NYSDEC Site No. C241087). Avalon Riverview II LLC and Avalon Riverview North1 LLC and Queens West Development Corp., or QWDC (collectively, the Volunteer) entered into a Brownfield Cleanup Agreement with the NYSDEC to remediate the site. The approved site remedial action was implemented under the oversight of the Volunteer's environmental consultant, Fleming-Lee Shue, Inc. (FLS) of New York, NY. The City of New York agreed to assume responsibility for the site remediation in May 2015. Redevelopment of the site is being conducted under the conditions of the NYSDEC-approved Site Management Plan (SMP) dated December 2011 and revised November 2014. The annual inspection and the preparation of this PRR were performed in accordance with the SMP. An updated PRR Certification Form is provided in Attachment 1.

Because certain work elements (completion of the sub-slab depressurization system and final cover installation) were completed after the 2018-2019 reporting period, NYSDEC requested submittal of a Revised PRR to document those work elements. A description of the work completed after the reporting period has been provided in Section 4.0 of this revised report.

The following documentation is provided in support of the PRR Certification Form. The documentation is referenced to the PRR Certification Form Box Number and Question Number.

Box 1/Question 4. New York City Building permits have been issued for construction of the new library and park facilities. During this reporting period, the site has obtained permits for plumbing and mechanical systems installation, use of Manitou telehandler construction equipment, and permits for the installation of construction fencing. The New York City Building permits are provided in Attachment 2.

# 2.0 ANNUAL SITE-WIDE INSPECTION

## 2.1 General Site Conditions

Construction activities at the site commenced in May 2015. A perimeter construction fence has been erected. An interim cover was placed over a demarcation barrier after remedial excavation work was completed. There are three (3) groundwater monitoring wells on the site parcel (Figure 2) which are currently being protected during construction activities. Any excavations which disturb soil below the demarcation barrier will be performed and monitored in accordance with the procedures identified in the approved SMP. The library building, Park Department building, and restroom facility shells have been constructed. Vapor barriers and sub-slab depressurization system (SSDS) piping have been installed beneath the footprint of each building. The SSDS was completed after May 16, 2019 and started up as described in Section 4.1 and shown in Attachments 3 and 4 of this report. Construction of concrete sidewalks, concrete plank passage and lawn areas which are components of the final composite cover system was completed after the reporting period as described in Section 4.2 and shown in Attachments 3 and 4 of this report.
.

## 2.2 Compliance with Institutional Controls

Institutional Controls (ICs) have been established to maintain and monitor the Engineering Control (ECs) Systems, prevent future exposure to the remaining contamination by controlling disturbances of the subsurface contamination, and limit the use and development of the site to commercial uses only. A copy of the Environmental Easement is provided in Appendix 1. The site ICs are listed in Box 3 of the PRR Certification Form (Attachment 1). All ICs for this phase of the project are currently in compliance.

## 2.3 Condition and Effectiveness of Engineering Controls

The SSDS and final cover system were completed after May 16, 2019 as described in Section 4.1 and Section 4.2 of this report.

The Excavation Work Plan (EWP), included as an appendix within the SMP, outlines procedures to be implemented during construction activities or in the event that the cover system is breached, penetrated, or temporarily removed, and any underlying remaining contamination is disturbed. The cover system, if breached, will be restored to its original condition at the completion of the soil removal in a manner that complies with the Remedial Action Work Plan (RAWP) and the EWP.

## 2.4 Site Management Activities

LiRo conducted quarterly groundwater monitoring on the following dates: June 22, 2018; September 25-28, 2018; December 18, 2018; and, March 26-28, 2019. The LiRo quarterly groundwater monitoring reports are provided in Attachments 5 through 8 and provide data and summaries of the groundwater monitoring results during the reporting period.

# 3.0 SITE EVALUATION

Remedial activities were completed at the site in December 2011 in compliance with the NYSDEC-approved RAWP and residual contamination is managed under the requirements of the SMP.

The current site activities adhere to the SMP which includes, but is not limited to, a Monitoring Program, an Excavation Work Plan, a Health and Safety Plan, and a Community Air Monitoring Program.

LiRo observed dense non-aqueous phase liquid (DNAPL) (inferred to be coal tar based on site history) at monitoring wells MW-26D and MW-27D during each of the quarterly monitoring events conducted during the reporting period. In accordance with the SMP these wells were not sampled when DNAPL was observed. Measured thicknesses of the DNAPL have been generally consistent throughout this review period.

The groundwater monitoring results are summarized below. The results generally indicate asymptotic trends in the off-site monitoring wells.

**Table 1 - Detections June 2017 – March 2019**

| Well ID | Analyte | Concentration (µg/L) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 3/2019 | 12/2018 | 9/2018 | 6/2018 | 3/2018 | 12/2017 | 9/2017 | 6/2017 |
| MW-24S | Benzene | 0.83 | NS | NS | NS | 6.5 | NS | NS | NS |
| | Naphthalene | ND | NS | NS | NS | 180 | NS | NS | NS |
| MW-24D | Benzene | 10.5 | NS | NS | NS | 30.9 | NS | NS | NS |
| | Naphthalene | ND | NS | NS | NS | 370 | NS | NS | NS |
| MW-25S | Benzene | 0.49 | NS | NS | NS | 12.2 | NS | NS | NS |
| | Naphthalene | ND | NS | NS | NS | ND | NS | NS | NS |
| MW-25D | Benzene | ND | NS | NS | NS | ND | NS | NS | NS |
| | Naphthalene | ND | NS | NS | NS | ND | NS | NS | NS |
| MW-26S | Benzene | 3,300 | 4,000 | 3,200 | 4,100 | 3,000 | 3,200 | 3,900 | 3,000 |
| | Naphthalene | 1,500 | 4,300 | 5,000 | 5,600 | 6,100 | 250 | 3,500 | 1,900 |
| MW-26D | Benzene | NS | NS | NS | NS | NS | NS | NS | 9,700 |
| | Naphthalene | NS | NS | NS | NS | NS | NS | NS | 5,000 |
| MW-27S | Benzene | 380 | 150 | 1,200 | 810 | 640 | 360 | 700 | 550 |
| | Naphthalene | 98.7 | 35.4 | 71.9 | 94 | 240 | 34.2 | 75.1 | 600 |
| MW-27D | Benzene | NS | NS | NS | NS | NS | NS | NS | NS |
| | Naphthalene | NS | NS | NS | NS | NS | NS | NS | NS |
| MW-30S | Benzene | ND | NS | ND | NS | ND | NS | ND | NS |
| | Naphthalene | ND | NS | ND | NS | ND | NS | ND | NS |
| MW-30D | Benzene | 850 | NS | 72.8 | NS | 440 | NS | 89.5 | NS |
| | Naphthalene | 9,100 | NS | 7,500 | NS | 3,900 | NS | 7,800 | NS |

µg/l = micrograms per liter
ND = Non detect
NS = Not sampled

Based on the results of this evaluation, there are no recommendations regarding any necessary changes to the remedy and/or monitoring plan at this time.

# 4.0 PRR ADDENDUM

Work completed after the 2018-2019 reporting period included completion/startup of the SSDS and completion of the cover system installation.

## 4.1 SSDS Installation and Startup

SSDS systems were installed at each of the three buildings which occupy the Site. Each system consists of sections of 6-inch diameter slotted and solid high density polyethylene (HDPE) pipe installed beneath the building floor slab surrounded by coarse gravel. A gas vapor barrier was installed above the gravel sub-base and below the concrete floor slabs. A 6-inch diameter riser pipe extends to the roof each building where the system Rotron blowers are installed. The library building uses a 1.5 horsepower blower (Model #EN454W58ML) and the Parks/Incoming Services building blowers are each 1.0 horsepower (Model #EN404AR58ML). Stamped as-built drawings showing the layout and construction details of the SSDS are provided in Attachment 3.

Between August 7, 2019 and September 6, 2019, LiRo completed baseline and start-up testing of the SSDS in accordance with SMP requirements. Baseline testing included sub-slab pressure monitoring with the system off and with the system on, as well as smoke testing with the system on. The results of the startup testing, which are provided in Attachment 4, indicated that the system is performing in compliance with SSDS requirements.

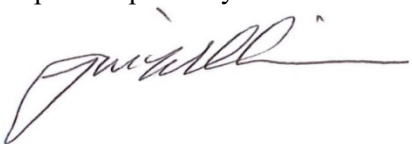
## 4.2 Cover System Completion

Exposure to remaining contamination in soil/fill at the Site is prevented by a soil cover system placed over the Site. Subsequent to the Site remedial excavation work, FLS documented the placement of the Site demarcation layer across the entire Site at elevations ranging from -3 feet above mean sea level (amsl), Queens Borough Datum to 4 feet amsl. FLS placed recycled concrete aggregate (RCA) meeting site use criteria at thicknesses ranging from 3 feet to 6 feet above the demarcation layer. During construction of the library, additional soil meeting site reuse criteria was imported for the final cover system. Stamped as-built drawings showing the cover system plan and cross-sections are provided in Attachment 3. Details regarding the source and analytical testing of soil imported for the final cover systems are provided in Attachment 4.

The final Site cover consists of the Site building slabs, lawn/landscape areas, concrete sidewalk areas and concrete plank covered areas. The final Site grades range from approximately 10 feet to 11.5 feet amsl. The thickness of the cover is in excess of 4 feet in all locations across the Site.

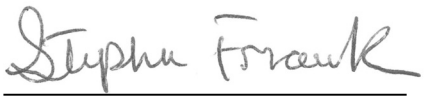
In conjunction with the final cover work, existing well casings in the lawn area were modified to meet final site grades and new at-grade steel outer casings were installed. The new modified casing elevations are as follows: MW-9 (10.81 feet amsl); MW-10 (10.82 feet amsl); MW-16S (11.82 feet amsl).

Report Prepared By:



Jon Williams
Senior Geologist

Report Reviewed By:

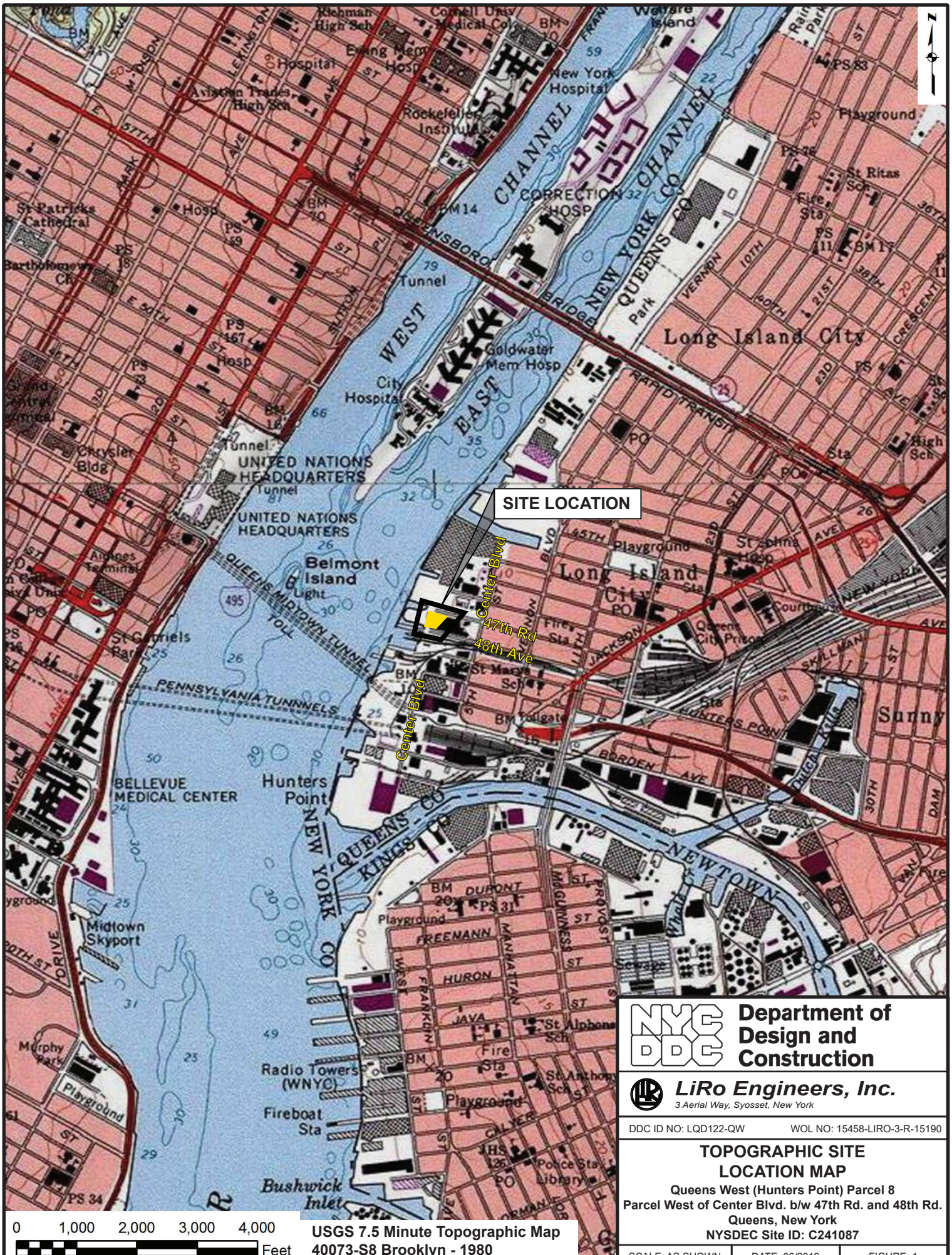


Stephen Frank
Senior Geologist

Report Certified By:

Martin Wesolowski, P.E.
Project Engineer

# Figures




USGS 7.5 Minute Topographic Map
40073-S8 Brooklyn - 1980

**Department of Design and Construction**

*LiRo Engineers, Inc.*
*3 Aerial Way, Syosset, New York*

DDC ID NO: LQD122-QW | WOL NO: 15458-LIRO-3-R-15190

## TOPOGRAPHIC SITE LOCATION MAP

**Queens West (Hunters Point) Parcel 8**
**Parcel West of Center Blvd. b/w 47th Rd. and 48th Rd.**
**Queens, New York**
**NYSDEC Site ID: C241087**

| SCALE: AS SHOWN | DATE: 06/2019 | FIGURE: 1 |
|---|---|---|

V:\NYCDDC\17-155-0265 - 2017 DDC OGES\Design\Phase I - Phase II\QW Hunters Point Library\15458 2019 Periodic Review Report\Hunters Point Topo Map.ai

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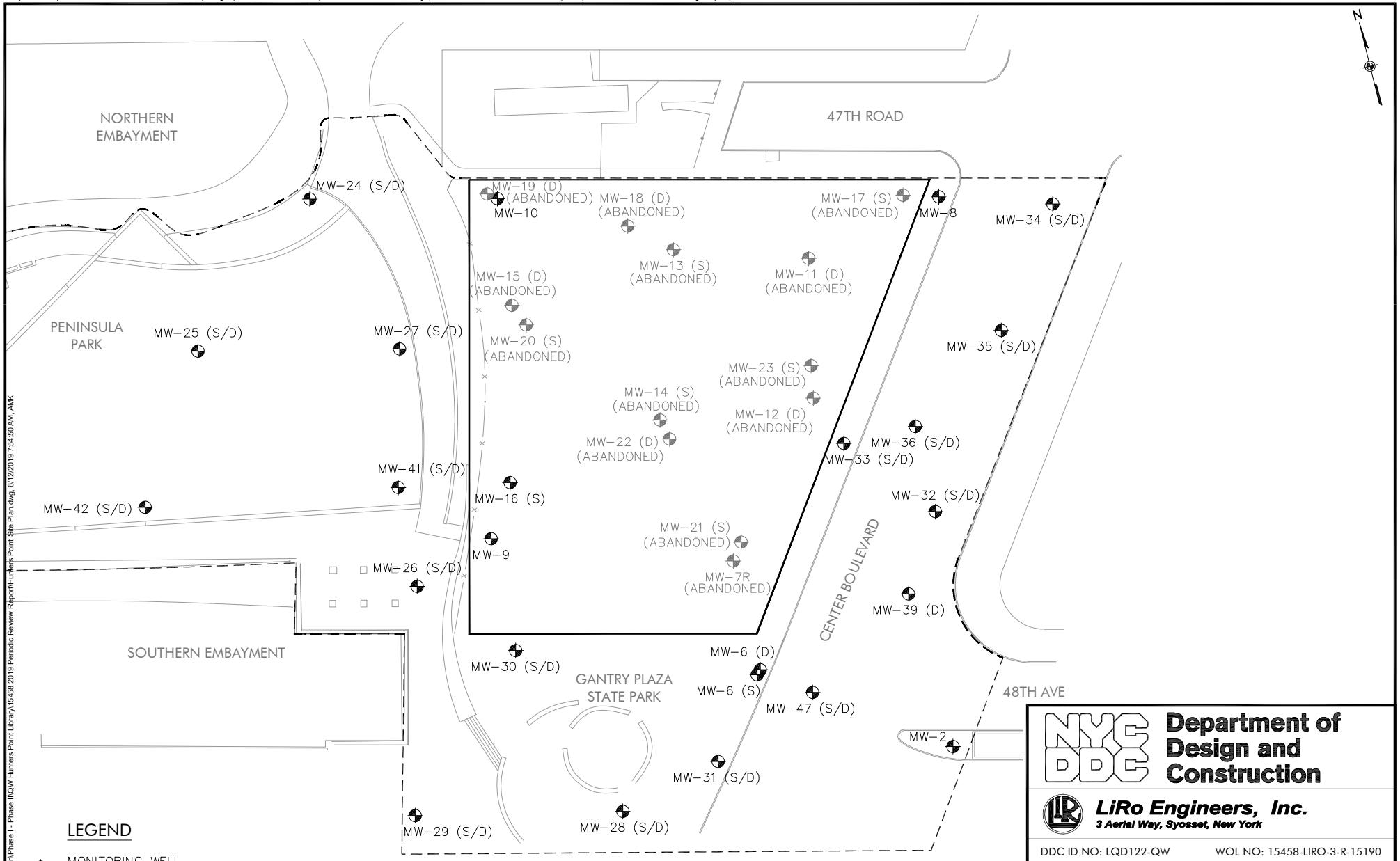



## LEGEND

- MONITORING WELL LOCATION
- PARCEL 8 BOUNDARY
- OFF-SITE INVESTIGATION AREA

## SOURCE

SITE AND WELL INFORMATION WERE OBTAINED FROM A DRAWING BY FLEMING LEE-SHUE ENVIRONMENTAL MANAGEMENT & CONSULTING:
TITLE: GROUNDWATER CONTOUR MAP – DEEP WELLS
FIGURE: FIGURE 2B
DATE: APRIL 2015
PROJECT NUMBER: 10011-019-7; 020-6

**Department of Design and Construction**

**LiRo Engineers, Inc.**
3 Aerial Way, Syosset, New York

DDC ID NO: LQD122-QW | WOL NO: 15458-LIRO-3-R-15190

# SITE PLAN - WELL LOCATIONS

QUEENS WEST (HUNTERS POINT) PARCEL 8
PARCEL WEST OF CENTER BLVD.
B/W 47th RD. AND 48th AVE.
NYSDEC Site: C241087
QUEENS, NY

| SCALE: AS SHOWN | DATE: 06/2019 | FIGURE: 2 |
|---|---|---|

V:\NYCDDC\17-155-0265 - 2017 DDC OGES\Design\Phase I - Phase II\QW Hunters Point Library\15458 2019 Periodic Review Report\Hunters Point Site Plan.dwg, 6/12/2019 7:54:50 AM, AMK

# Attachment 1
# Updated PRR Certification Form

**Enclosure 2**
**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**
**Site Management Periodic Review Report Notice**
**Institutional and Engineering Controls Certification Form**

**Site Details** **Box 1**

**Site No.** **C241087**

**Site Name Queens West (Hunter's Point) Parcel 8**

Site Address: Center Blvd. and 47th Rd. and 48th Ave. Zip Code: 11101
City/Town: Long Island City
County: Queens
Site Acreage: 0.736

Reporting Period: May 16, 2018 to May 16, 2019

| | YES | NO |
|---|---|---|
| 1. Is the information above correct? | ☒ | ☐ |
| If NO, include handwritten above or on a separate sheet. | | |
| 2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period? | ☐ | ☒ |
| 3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))? | ☐ | ☒ |
| 4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period? | ☒ | ☐ |
| **If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.** | | |
| 5. Is the site currently undergoing development? | ☒ | ☐ |

**Box 2**

| | YES | NO |
|---|---|---|
| 6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial | ☒ | ☐ |
| 7. Are all ICs/ECs in place and functioning as designed? | ☒ | ☐ |

**IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

Signature of Owner, Remedial Party or Designated Representative Date

**Box 2A**

| | YES | NO |
|---|---|---|
| 8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid? | ☐ | ☒ |
| **If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.** | | |
| 9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years) | ☒ | ☐ |
| **If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.** | | |

**SITE NO. C241087**

**Box 3**

**Description of Institutional Controls**

| Parcel | Owner | Institutional Control |
|---|---|---|
| **19-21** | Queens West Development Corporation | Landuse Restriction<br>Monitoring Plan<br>O&M Plan<br><br>Ground Water Use Restriction<br>Soil Management Plan<br>Site Management Plan<br>IC/EC Plan |

(I) Tbe Controlled Property may be used for Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial
as described in 6 NYCRR Part 375-1.8(g)(2)(iv);
(2) All Engineering Controls must he operated and maintained as apecified in the Site Management Plan (SMP);
(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP.
(4) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;
(5) Data and information pertinent to Site Management oftbe Controlled Property must be reported at the frequency and in a manner defined in the SMP;
(6) All future activities on the property that will distUrb remaining contaminated material must be conducted in accordance with the SMP;
(7) Monitoring to assess the performance and effectiveness of the remedy must he perfonoed as defined in the SMP;
(8) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall he performed as defined in the SMP;
(9) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property ownCI'to
assure·compliance with the restrictions identified by this Enviromnental Easement.

**Box 4**

**Description of Engineering Controls**

| Parcel | Engineering Control |
|---|---|
| **19-21** | Cover System<br>Vapor Mitigation |

The Engineering Controls for this Site include a composite cover over the entire site and a vapor barrier plus sub-slab depressurization system for any occupied structures to be built on the site.

**Box 5**

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

| YES | NO |
|---|---|
| ☒ | ☐ |

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

| YES | NO |
|---|---|
| ☒ | ☐ |

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

Signature of Owner, Remedial Party or Designated Representative

Date

**IC CERTIFICATIONS**
**SITE NO. C241087**

**Box 6**

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Stephen Frank (print name) at 690 Delaware Ave, Buffalo, NY (print business address),

am certifying as Remedial Party (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

9/12/19
Date

## IC/EC CERTIFICATIONS

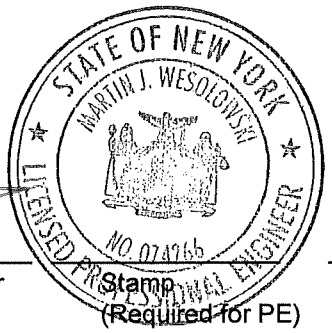
**Box 7**

**Professional Engineer Signature**

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Martin Wesolowski at 690 Delaware Ave, Buffalo, NY,
print name print business address

am certifying as a Professional Engineer for the Remedial Party
(Owner or Remedial Party)




Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

9/12/2019
Date

# Attachment 2
# New York City Permits

NYC™ Buildings

# Work Permit Department of Buildings

**Permit Number:** *420606829-01-EQ-FN*

**Issued:** *10/09/2018* **Expires:** *10/09/2019*

**Address:** *QUEENS 47-40 CENTER BOULEVARD*

*Issued to: STEPHEN LEVAN*
*Business: TRITON STRUCTURAL CONCRET*
*Contractor No: GC-604939*

**Description of Work:**

*NEW BUILDING - CONSTRUCTION EQUIPMENT - FENCE CONSTRUCT NEW 6 STORIES LIBRARY BUILDING .INSTALL CONSTRUCTION FENCE*

*Number of dwelling units occupied during construction: 0*
*Review is requested under Building Code: 2008* *SITE FILL: ON-SITE*

**To see a Zoning Diagram (ZD1) or to challenge a zoning approval filed as part of a New Building application or Alteration application filed after 7/13/2009, please use "My Community" on the Buildings Department web site at www.nyc.gov/buildings.**

**Emergency Telephone Day or Night: 311**

**Borough Commissioner:**

**Commissioner of Buildings:**

*This permit copy created on 06/03/2019 reflects the Commissioner(s) as of such date.*

**Tampering with or knowingly making a false entry in or falsely altering this permit is a crime that is punishable by a fine, imprisonment or both.**

05 06/03/2019

OP-35A (5/10)

NYC Buildings

# Work Permit Department of Buildings

**Permit Number:** 420606829-01-NB

**Issued:** 10/09/2018 **Expires:** 09/01/2019

**Address:** QUEENS 47-40 CENTER BOULEVARD

Issued to: STEPHEN LEVAN
Business: TRITON STRUCTURAL CONCRET
Contractor No: GC-604939

**Description of Work:**
NEW BUILDING - CONSTRUCT NEW 6 STORIES LIBRARY BUILDING .INSTALL CONSTRUCTION FENCE

Number of dwelling units occupied during construction: 0
Review is requested under Building Code: 2008

SITE FILL: ON-SITE

To see a Zoning Diagram (ZD1) or to challenge a zoning approval filed as part of a New Building application or Alteration application filed after 7/13/2009, please use "My Community" on the Buildings Department web site at www.nyc.gov/buildings.

**Emergency Telephone Day or Night: 311**

**Borough Commissioner:**

**Commissioner of Buildings:**

This permit copy created on 06/03/2019 reflects the Commissioner(s) as of such date.

Tampering with or knowingly making a false entry in or falsely altering this permit is a crime that is punishable by a fine, imprisonment or both.

05 06/03/2019

OP-35A (5/10)

NYC™ Buildings

# Work Permit Department of Buildings

**Permit Number:** *440167659-01-PL*

**Issued:** *09/18/2018* **Expires:** *09/18/2019*

**Address:** *QUEENS 47-40 CENTER BLVD*

*Issued to: DANIELLE MAGLIO*

*Business: EASTERN PLBG & MECH CONTR*

*License No: MP-2257*

**Description of Work:**

*PLUMBING - ALTERATION TYPE 2 INSTALL PLUMBING AND MECHANICAL SYSTEMS IN NEW LIBRARY BUILDING. FILED IN CONJUNCTION WITH NB 420651459. NO CHANGE TO USE EGRESS OR OCCUPANCY UNDER THIS APPLICATION*

*Review is requested under Building Code: 2008*

*SITE FILL: NOT APPLICABLE*

**To see a Zoning Diagram (ZD1) or to challenge a zoning approval filed as part of a New Building application or Alteration application filed after 7/13/2009, please use "My Community" on the Buildings Department web site at www.nyc.gov/buildings.**

**Emergency Telephone Day or Night: 311**

**Borough Commissioner:**

**Commissioner of Buildings:**

*This permit copy created on 06/03/2019 reflects the Commissioner(s) as of such date.*

**Tampering with or knowingly making a false entry in or falsely altering this permit is a crime that is punishable by a fine, imprisonment or both.**

*04 06/03/2019*

OP-35A (5/10)

NYC™ Buildings

# Work Permit Department of Buildings

**Permit Number:** *440518619-01-EQ-OT*

**Issued:** *11/05/2018* **Expires:** *11/05/2019*

**Address:** *QUEENS 47-40 CENTER BOULEVARD*

*Issued to: STEPHEN LEVAN*
*Business: TRITON STRUCTURAL CONCRET*
*Contractor No: GC-604939*

**Description of Work:**

*ALTERATION TYPE 2 - CONSTRUCTION EQUIPMENT - OTHER USE OF MANITOU TELEHANDLER CONSTRUCTION EQUIPMENT AS PER PLANS FILED HEREWITH. FILED IN CONJUNCTION WITH NB - 420606829.*

*Number of dwelling units occupied during construction: 0*
*Review is requested under Building Code: 2014*

*SITE FILL: NOT APPLICABLE*

**To see a Zoning Diagram (ZD1) or to challenge a zoning approval filed as part of a New Building application or Alteration application filed after 7/13/2009, please use "My Community" on the Buildings Department web site at www.nyc.gov/buildings.**

**Emergency Telephone Day or Night: 311**

**Borough Commissioner:**

**Commissioner of Buildings:**

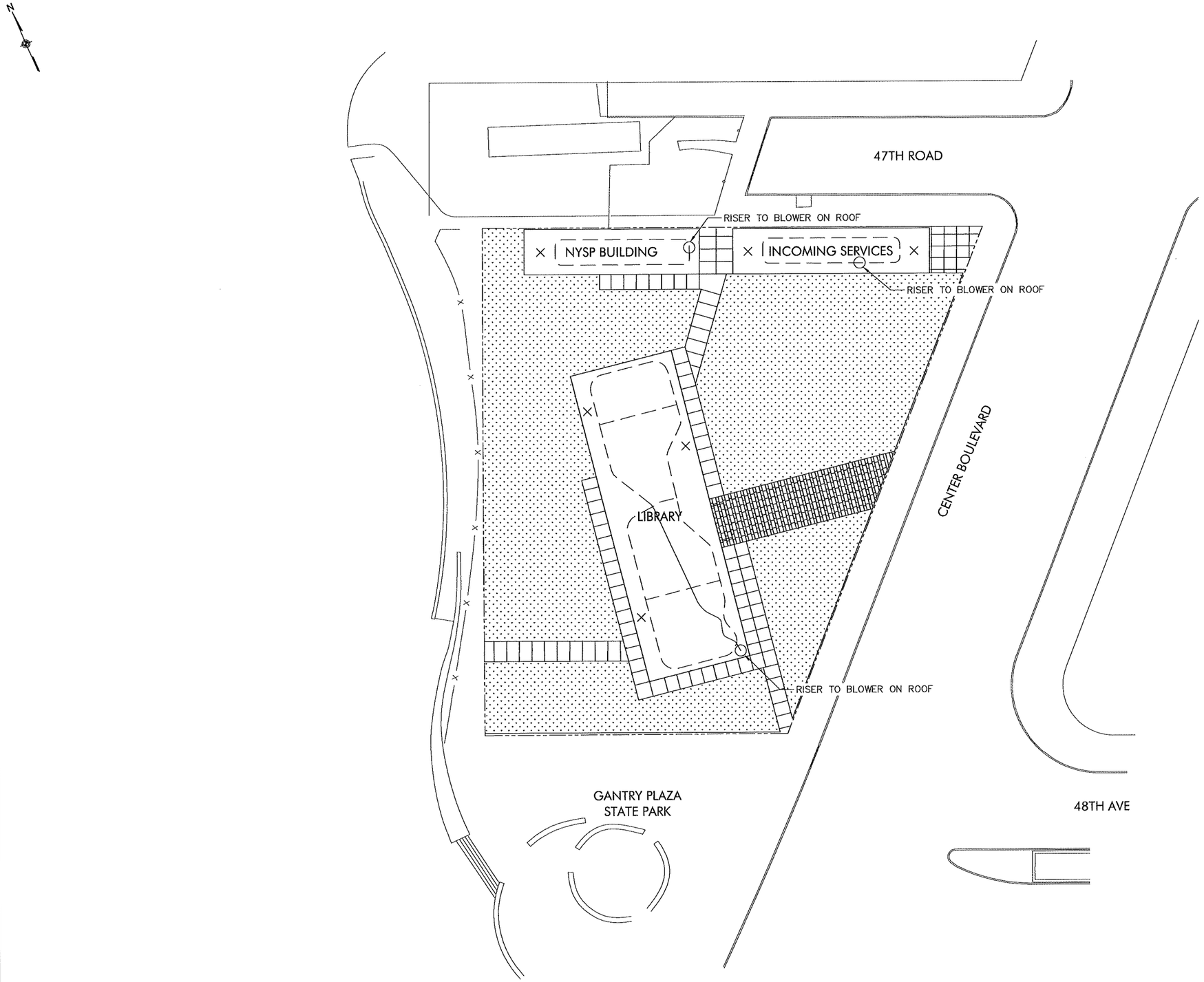
*This permit copy created on 06/03/2019 reflects the Commissioner(s) as of such date.*

**Tampering with or knowingly making a false entry in or falsely altering this permit is a crime that is punishable by a fine, imprisonment or both.**

*01 06/03/2019*

OP-35A (5/10)

# Attachment 3
# As-Built Drawings – SSDS and Final Cover System




LEGEND

- 6" SSDS PERFORATED PIPE
- 6" SSDS SOLID PIPE
- 4" SSDS RISER TO ROOF
- SUB-SLAB MONITORING POINT

20 0 20
SCALE IN FEET

REVISIONS:

| NUMBER | DESCRIPTION | DATE |
|---|---|---|
| | | |

**Department of Design and Construction**

**LiRo Engineers, Inc.**
*3 Aerial Way, Syosset, New York*

DIVISION OF PUBLIC BUILDINGS
CAPITAL PROJECT NUMBER:
LQD122-QW
PROJECT:
CONSTRUCTION MANAGEMENT/DESIGN/BUILD FOR REMEDIATION AND MONITORING OF CITY-OWNED PETROLEUM CONTAMINATED SITES, BOROUGHS OF QUEENS, BROOKLYN AND STATEN ISLAND

QUEENS WEST (HUNTERS POINT) PARCEL 8
PARCEL WEST OF CENTER BLVD.
B/W 47th RD. AND 48th AVE.
FOR THE:

DOB APPROVAL STAMP

DRAWING TITLE:
SUBSURFACE DEPRESSURIZATION SYSTEM PLAN

SEAL & SIGNATURE

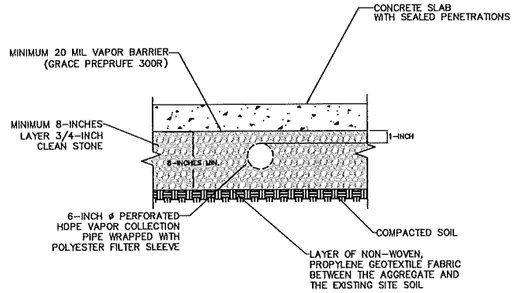
THE NEW YORK
KEVIN J. WESTLOWSON
LICENSED PROFESSIONAL ENGINEER
NO. 074266

| | |
|---|---|
| DATE: | 2 JANUARY, 2020 |
| PROJECT NO: | 17-155-0265 |
| DRAWING BY: | A.M.K. |
| CHK BY: | M.J.W. |
| SHEET NUMBER: | 3-1 |
| ISSUED FILE NO: Hunters Point SMD System Plan | 1 |

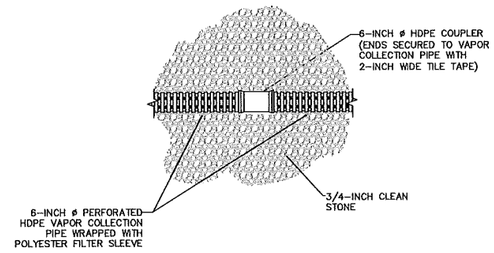
**WARNING**

IT IS A VIOLATION OF SECTION 7209, SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, OTHER THAN THOSE WHOSE SEAL APPEARS ON THIS DRAWING, TO ALTER IN ANY WAY AN ITEM ON THIS DRAWING. IF AN ITEM IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

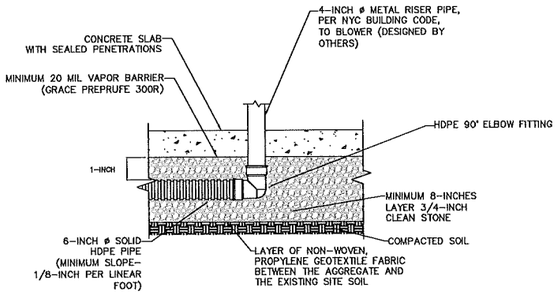
V:\NYCDDC\17-155-0265 - 2017 DDC OCES\Design\Phase I - Phase I\QW Hunters Point Library\154458 2019 Periodic Review Report\Hunters Point SMD System Plan.dwg 12/31/2019 12:22 PM



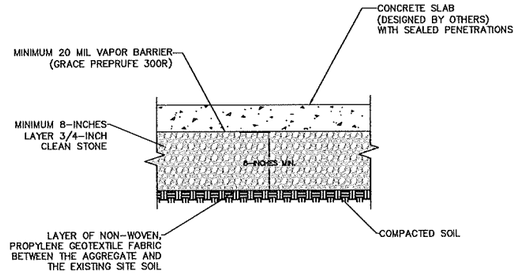

TYPICAL SECTION FOR VAPOR CONNECTION PIPE AND VAPOR BARRIER




TYPICAL COUPLER CONNECTION FOR VAPOR COLLECTION PIPE



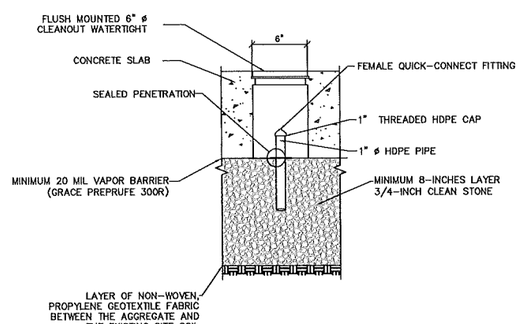

TYPICAL SECTION AT SOLID PIPE TO RISER PIPE




TYPICAL SECTION THROUGH SUB-SLAB

NOTE:

1. ANY DEVIATION FROM THIS INSTALLATION MUST BE SUBMITTED FOR APPROVAL.




SUB-SLAB MONITORING POINT DETAIL

NOT TO SCALE

DOB APPROVAL STAMP

REVISIONS:

| NUMBER | DESCRIPTION | DATE |
|---|---|---|
| | | |

**Department of Design and Construction**

**LiRo Engineers, Inc.**
*3 Aerial Way, Syosset, New York*

DIVISION OF PUBLIC BUILDINGS
CAPITAL PROJECT NUMBER:
LQD122-QW
PROJECT:
CONSTRUCTION MANAGEMENT/DESIGN/BUILD FOR REMEDIATION AND MONITORING OF CITY-OWNED PETROLEUM CONTAMINATED SITES, BOROUGHS OF QUEENS, BROOKLYN AND STATEN ISLAND

QUEENS WEST (HUNTERS POINT) PARCEL 8
PARCEL WEST OF CENTER BLVD.
B/W 47th RD. AND 48th AVE.
FOR THE:

# SUBSURFACE DEPRESSURIZATION SYSTEM

SEAL & SIGNATURE:

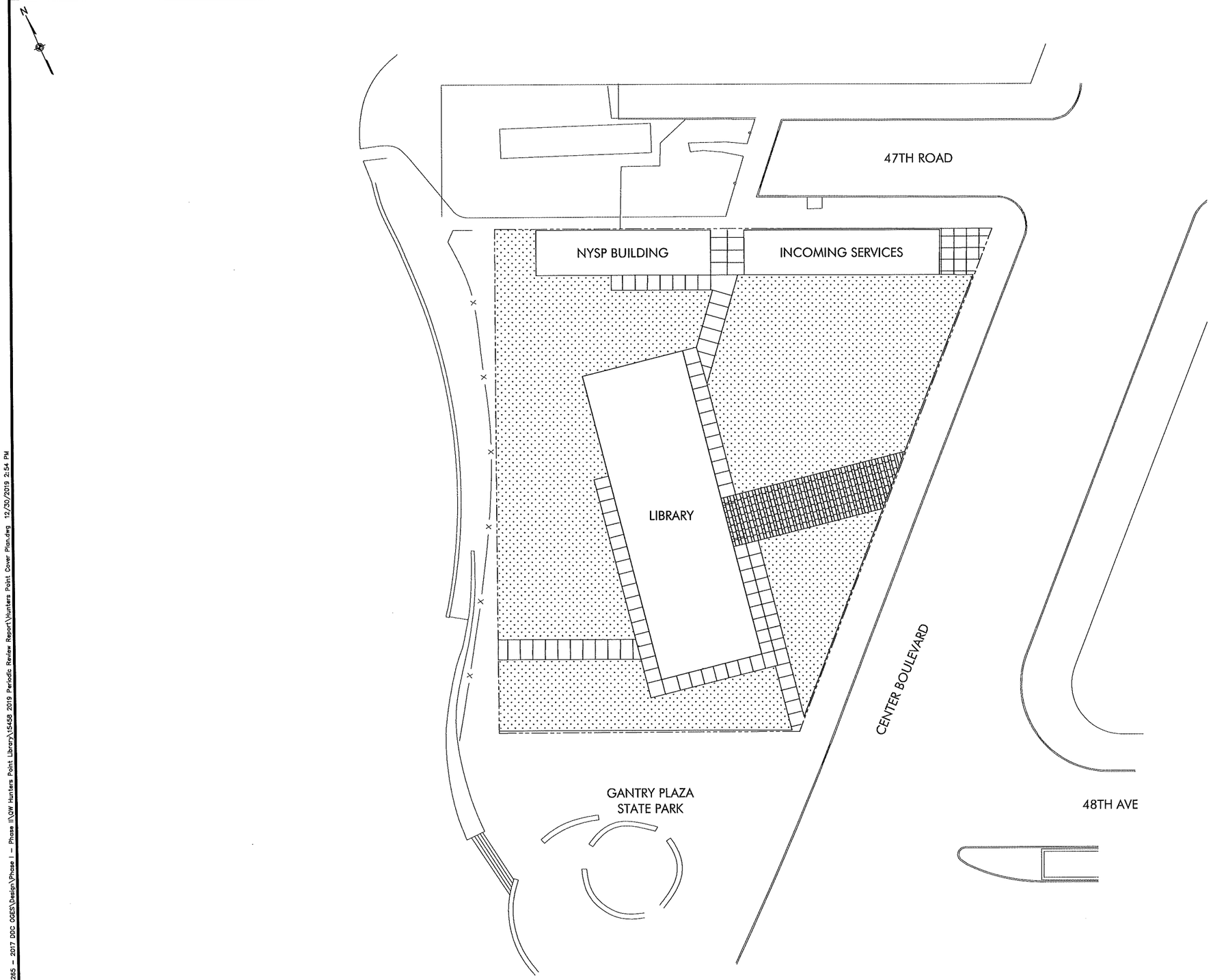
STATE OF NEW YORK
CHRISTOPHER J. WESTHOVEN
LICENSED PROFESSIONAL ENGINEER
NO. 074266

| | |
|---|---|
| DATE: | 2 JANUARY, 2020 |
| PROJECT NO: | 17-155-0265 |
| DRAWN BY: | A.M.K. |
| CHK'D BY: | M.J.W. |
| DRAWING NUMBER: | 3-2 |
| CADD FILE NO: Hu_Nos Point SSD System Details | 1 |

WARNING

IT IS A VIOLATION OF SECTION 7209, SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, OTHER THAN THOSE WHOSE SEAL APPEARS ON THIS DRAWING, TO ALTER IN ANY WAY AN ITEM ON THIS DRAWING. IF AN ITEM IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

W:\NYCDDC\17-155-0285 - 2017 DDC OGES\Design\Phase I - Phase II\QW Hunters Point Library\15458 2019 Periodic Review Report\Hunters Point SSD System Details.dwg 12/30/2019 3:58 PM




LEGEND

- CONCRETE PLANK
- CONCRETE SIDEWALK
- LAWN/LANDSCAPE

20 0 20
SCALE IN FEET

REVISIONS:

| NUMBER | DESCRIPTION | DATE |
|---|---|---|
| | | |

**Department of Design and Construction**

***LiRo Engineers, Inc.***
*3 Aerial Way, Syosset, New York*

DIVISION OF PUBLIC BUILDINGS
CAPITAL PROJECT NUMBER:
LQD122-QW

PROJECT:
CONSTRUCTION MANAGEMENT/DESIGN/BUILD FOR REMEDIATION AND MONITORING OF CITY-OWNED PETROLEUM CONTAMINATED SITES, BOROUGHS OF QUEENS, BROOKLYN AND STATEN ISLAND

QUEENS WEST (HUNTERS POINT) PARCEL 8
PARCEL WEST OF CENTER BLVD.
B/W 47th RD. AND 48th AVE.

FOR THE:

DOB APPROVAL STAMP

DRAWING TITLE:
SITE PLAN

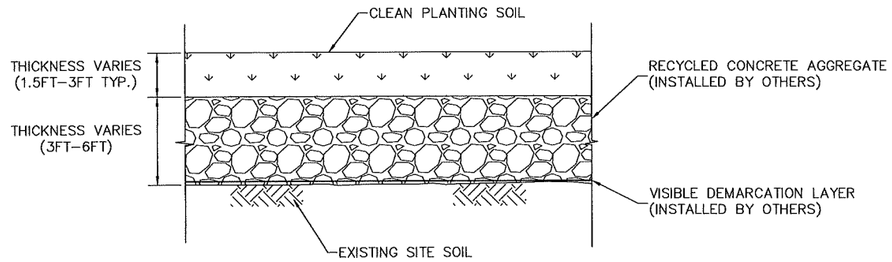
STATE OF NEW YORK
MARTIN J. WESOLOWSKI
LICENSED PROFESSIONAL ENGINEER
NO. 074266

| | |
|---|---|
| DATE: | 2 JANUARY, 2020 |
| PROJECT NO: | 17-155-0265 |
| DRAWN BY: | A.M.K. |
| CHK BY: | M.J.W. |
| FILE NUMBER: | 3-3 |
| CAD FILE NO: Hunters Point Cover Plan | 1 |

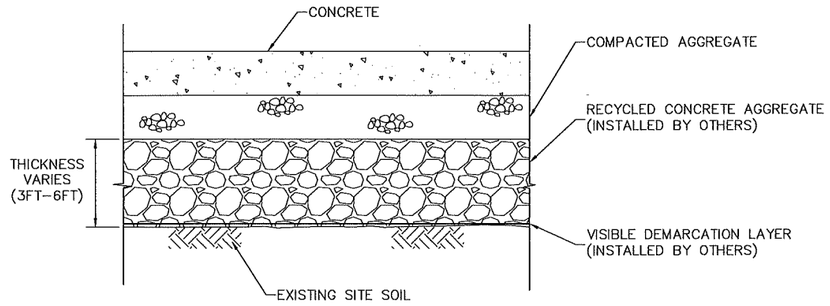
**WARNING**

IT IS A VIOLATION OF SECTION 7209, SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, OTHER THAN THOSE WHOSE SEAL APPEARS ON THIS DRAWING, TO ALTER IN ANY WAY AN ITEM ON THIS DRAWING. IF AN ITEM IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION 'ALTERED BY' FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

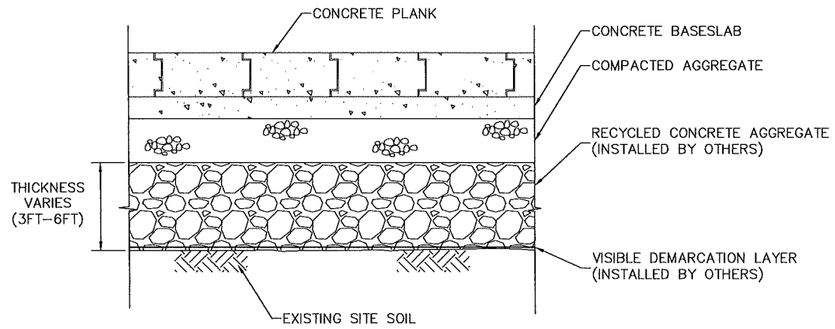
V:\NYCDDC\17-155-0265 - 2017 DDC OGES\Design\Phase I - Phase II\QW Hunters Point Library\15458 2019 Periodic Review Report\Hunters Point Cover Plan.dwg 12/30/2019 2:54 PM




CLEAN SOIL COVER (LAWN AREAS)




CONCRETE COVER (SIDEWALKS)




CONCRETE PLANK COVER

NOT TO SCALE



DOB APPROVAL STAMP

REVISIONS:

| NUMBER | DESCRIPTION | DATE |
|---|---|---|
| | | |

**Department of Design and Construction**

**LiRo Engineers, Inc.**
*3 Aerial Way, Syosset, New York*

DIVISION OF PUBLIC BUILDINGS
CAPITAL PROJECT NUMBER:
LQD122-QW
PROJECT:
CONSTRUCTION MANAGEMENT/DESIGN/BUILD FOR REMEDIATION AND MONITORING OF CITY-OWNED PETROLEUM CONTAMINATED SITES, BOROUGHS OF QUEENS, BROOKLYN AND STATEN ISLAND

QUEENS WEST (HUNTERS POINT) PARCEL 8
PARCEL WEST OF CENTER BLVD.
B/W 47th RD. AND 48th AVE.
FOR THE:

DRAWING TITLE:
COVER SYSTEM CROSS SECTIONS

SEAL & SIGNATURE:

STATE OF NEW YORK
MARK J. WESOLOWSKI
074266
LICENSED PROFESSIONAL ENGINEER

| | |
|---|---|
| DATE: | 2 JANUARY, 2020 |
| PROJECT NO: | 17-155-0265 |
| DRAWING BY: | A.M.K. |
| CHK'D BY: | M.J.W. |
| SHEET NUMBER: | 3-4 |
| CADD FILE NO: Hunters Point Cover Details | 1 |

W:\NYCDDC\17-155-0265 - 2017 DDC OGES\Design\Phase I - Phase II\QW Hunters Point Library\15458 2019 Periodic Review Report\Hunters Point Cover Details.dwg 12/30/2019 3:58 PM

# Attachment 4
# MEMO REPORT: 2018-2019 Periodic Review Report (PRR) Update and Sub-Slab Depressurization Systems (SSDS) Baseline/Start-up Testing

LiRo Engineers, Inc.
A LiRo Group Company
703 Lorimer Street, Brooklyn, NY 11211 Telephone 718.782.0267 Facsimile 718.387.6754 www.liro.com

**MEMORANDUM**

**TO:** **Cavy Chu**
**Deputy Director, Office of Geotechnical and Environmental Services**
**Division of Safety and Site Support**
**New York City Department of Design and Construction**
**30-30 Thomson Avenue, Third Floor**
**Long Island City, New York 11101**

**FROM:** **LiRo Engineers, Inc.**

**DATE:** **September 20, 2019**

**SUBJECT:** **MEMO REPORT: 2018-2019 Periodic Review Report (PRR) Update and Sub-Slab Depressurization Systems (SSDS) Baseline/Start-up Testing**
**Queens West Hunters Point Community Library**
**Parcel West of Central Boulevard between 47th Road and 48th Avenue**
**Queens, New York**
**NYCDDC Project # LQD122-QW**
**WOL No.: 15670-LIRO-3-R-15331**

---

LiRo Engineers, Inc. (LiRo), on behalf of the New York City Department of Design and Construction (NYCDDC) Office of Environmental and Geotechnical Services (OEGS), is providing this update to the Periodic Review Report (PRR) dated June 14, 2019 for the period of May 16, 2018 – May 16, 2019. The PRR was prepared for the Queens West Hunters Point Community Library site (New York State Department of Environmental Conservation [NYSDEC] Brownfield Cleanup Program [BCP] Site #C241087). Figure 1 shows the site location.

In that PRR, LiRo stated that soil had been imported as part of the final cover system at the Site. Analytical data for the imported material was requested from project personnel, however; such information had not been received by June 14, 2019 for inclusion in the PRR. LiRo included in the PRR a Corrective Measures Work Plan to address the absence of data required to certify that the Site Cover System was constructed in compliance with the requirements of the Site Management Plan (SMP).

Subsequent to the 2018-2019 PRR reporting period, the building sub-slab depressurization systems (SSDS) were readied for operation. LiRo conducted baseline testing of the systems and start-up testing required by the SMP prior to building occupancy. The results from the SSDS testing are also included in this PRR update.

**Imported Soil**

LiRo acquired information on the source and quantity of imported topsoil, as well as prior analytical testing results from project personnel. The imported topsoil was obtained from Advanced Soil Technologies - 39 Edgeboro Rd., East Brunswick, New Jersey, and consisted of native sand from permitted mines in New Jersey amended with topsoil from Somerset, New Jersey and compost.

A total of 2,500 cubic yards of the Advanced Soil Technologies was imported to the Site. Prior to import, the material was sampled by Taylord Environment, Inc. of Wingdale, New York at a frequency specified in NYSDEC DER-10 Table 5.4(e)10. The analytical testing included 21 volatile organic compounds (VOCs) grab samples and six composite samples analyzed for semi-volatile organic compounds (SVOCs), inorganics, chlorinated herbicides, PCBs, and pesticides. There were no organic analytes detected in the samples. The inorganic analyte testing results were compared to the re-use criteria listed in Table 3 of the SMP and are summarized in Table 1 of this memo report. The results of the soil sampling are in compliance with the re-use criteria. LiRo prepared a NYSDEC request to import soil dated August 8, 2019 (see Attachment 1), which includes the laboratory reports and relevant soil source information.

According to the SMP, a minimum two-foot thick clean soil cover layer was placed at the Site prior to the landscaping work. The topsoils imported for landscaping were placed on top of the existing clean soil cover layer. The portion of the Site where topsoil was placed is shown on Figure 2. After construction is complete, a final composite cover system figure will be prepared to append to the SMP.

Based on the documentation showing imported soils meeting the requirements of the SMP, LiRo updated the PRR Certification form for the period May 16, 2018 – May 16, 2019. The updated Certification is provided in Attachment 2.

**SSDS Baseline and Start-up Testing**

Between August 7, 2019 and September 6, 2019, LiRo completed baseline and start-up testing of the SSDS in accordance with SMP requirements. Baseline testing included sub-slab pressure monitoring with the system off and with the system on, as well as smoke testing with the system on.

For the baseline testing on August 7, 2019, pressure measurements were recorded at existing monitoring/sampling points using an Omniguard Differential Pressure Recorder. A Photoionization Detector (PID) was used to record total organic vapors at each monitoring point. The results of the testing are summarized in Table 2. Smoke testing did not indicate any evidence of leaks through the floor slab.

On August 12, August 23, August 30, and September 6, 2019, LiRo performed weekly sub-slab pressure monitoring with the system operating. For the weekly monitoring, pressure measurements were recorded at existing monitoring/sampling points using a magnehelic pressure gauge. The results of the weekly monitoring are summarized in Table 3. The SSDS has exceeded the operational goal of achieving a minimum differential pressure of 0.01 inches of water column during the first month of continuous operation.

System baseline and start-up testing indicate that the system is performing in compliance with SSDS requirements. Going forward quarterly monitoring should be conducted in compliance with the SMP.

**Site Turnover**

The Library construction project is nearing completion and the Site will soon be turned over to Queens Public Library for future SMP-required monitoring and reporting. The City is conducting third quarter 2019 groundwater sampling and reporting. The City will also provide the updated final composite cover system figure to append to the SMP and as-built drawings for the SSDS. Monitoring and reporting beyond that will be the responsibility of Queens Public library.

Report Prepared By:

Stephen Frank, PG
Senior Geologist

Report Reviewed By:

Martin Wesolowski, PE
Professional Engineer

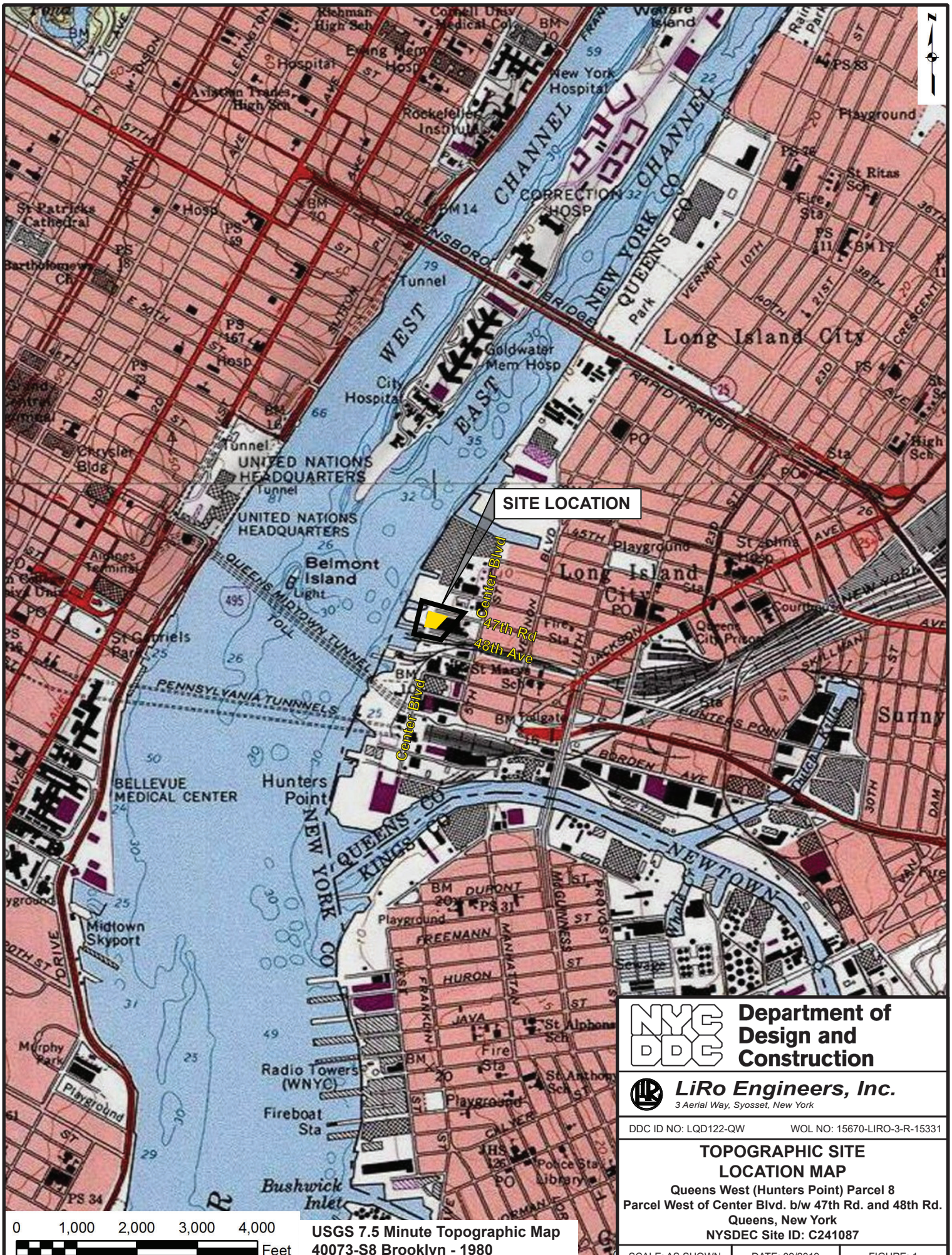
Report Reviewed By:

Robert Kreuzer
Project Manager

**FIGURES**
**Figure 1 – Topographic Site Location Map**
**Figure 2 – Soil Placement Plan**

**TABLES**
**Table 1 - Inorganics Detected in Imported Soil**
**Table 2 - Summary of SSDS Baseline Testing**
**Table 3 - Summary of SSDS Weekly Monitoring**

**ATTACHMENTS**
**Attachment 1 – NYSDEC Imported Soil Request**
**Attachment 2 – Certification**




**USGS 7.5 Minute Topographic Map**
**40073-S8 Brooklyn - 1980**

**Department of Design and Construction**

*LiRo Engineers, Inc.*
*3 Aerial Way, Syosset, New York*

DDC ID NO: LQD122-QW | WOL NO: 15670-LIRO-3-R-15331

# TOPOGRAPHIC SITE LOCATION MAP

**Queens West (Hunters Point) Parcel 8**
**Parcel West of Center Blvd. b/w 47th Rd. and 48th Rd.**
**Queens, New York**
**NYSDEC Site ID: C241087**

| SCALE: AS SHOWN | DATE: 09/2019 | FIGURE: 1 |
|---|---|---|

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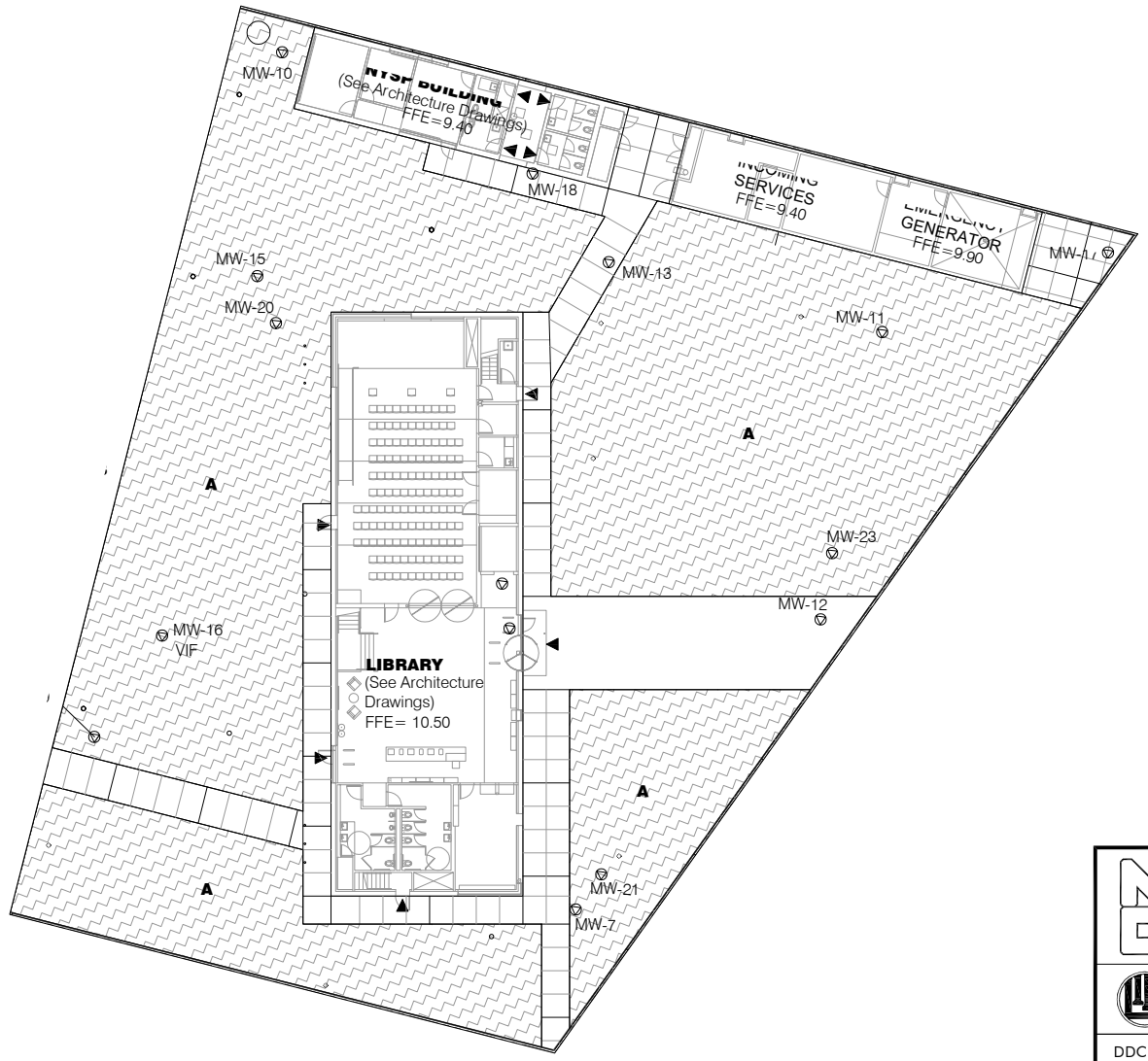


SOILS LEGEND

A TOP SOIL

NOTE:

DRAWING SOURCE IS NYCDDC SOILS PLAN (DRAWING L-500). THIS PLAN DEPICTS SEVERAL MONITORING WELLS WHICH WERE ABANDONED DURING THE COURSE OF CONSTRUCTION.

20 0 20

SCALE IN FEET

NYC DDC Department of Design and Construction

LiRo Engineers, Inc.
3 Aerial Way, Syosset, New York

DDC ID NO: LQD122-QW WOL NO: 15670-LIRO-3-R-15331

# SOIL PLACEMENT PLAN

QUEENS WEST (HUNTERS POINT) PARCEL 8
PARCEL WEST OF CENTER BLVD.
B/W 47th RD. AND 48th AVE.
NYSDEC Site: C241087
QUEENS, NY

| SCALE: AS SHOWN | DATE: 09/2019 | FIGURE: 2 |
|---|---|---|

**TABLE 1**

**Inorganics Detected in Imported Soil**
**Queens West Hunters Point Community Library**
**Parcel West of Central Boulevard between 47th Road and 48th Avenue**
**Queens, New York**
**BCP Site No. C241087**

| Metal | SMP Criteria for Imported Soil | Sample ID and Date Collected | | | | | |
|---|---|---|---|---|---|---|---|
| | | SP-1 COMP 1 | SP-1 COMP 2 | SP-2 COMP 1 | SP-2 COMP 2 | SP-3 COMP 1 | SP-3 COMP 2 |
| | | 4/22/2019 | 4/22/2019 | 4/29/2019 | 4/29/2019 | 5/23/2019 | 5/23/2019 |
| **Silver** | 8.3 | ND | ND | ND | ND | ND | ND |
| **Arsenic** | 16 | 0.78 | ND | 0.79 | ND | 1.56 | 2.02 |
| **Barium** | 400 | 3.03 | 2.17 | 14.3 | 10.8 | 39 | 41.5 |
| **Beryllium** | 47 | ND | ND | ND | ND | ND | ND |
| **Cadmium** | 7.5 | ND | ND | ND | ND | ND | 0.41 |
| **Hexavalent Chromium** | 19 | ND | ND | ND | ND | ND | ND |
| **Copper** | 270 | 0.8 | ND | 2.6 | 2.0 | 11.9 | 15.9 |
| **Mercury** | 0.73 | ND | ND | ND | ND | 0.04 | ND |
| **Manganese** | 2,000 | 11.5 | 9.43 | 71.1 | 53.5 | 198 | 225 |
| **Nickel** | 130 | ND | ND | 2.08 | 1.94 | 6.25 | 7.67 |
| **Lead** | 450 | 1.61 | 1.34 | 3.05 | 2.75 | 15.80 | 16.40 |
| **Selenium** | 4 | ND | ND | ND | ND | ND | ND |
| **Trivalent Chromium** | 1,500 | 14.1 | 2.6 | 4.2 | 4.53 | 9.52 | 9.33 |
| **Zinc** | 2,480 | 3.3 | 1.7 | 8.2 | 7.2 | 36.2 | 38.8 |

**Notes:**

**All concentrations are reported in parts per million (ppm or mg/kg)**

**SMP criteria from Table 3 of SMP (6 NYCRR Part 375-6.7(d), Commercial Use)**

ND = Parameter not detected above minimun detection limits (MDL)

# TABLE 2

## Summary of SSDS Baseline Testing
## Queens West Hunters Point Community Library
## Parcel West of Central Boulevard between 47th Road and 48th Avenue
## Queens, New York
## BCP Site No. C241087

| Sample Location | Time | Blower Status | PID Reading* | Pressure Reading** | Time | Blower Status | Pressure Reading** |
|---|---|---|---|---|---|---|---|
| Library -1 | 0800 | Off | 0 | -0.004 | 1130 | On | -0.25 |
| Library -1 | 0905 | Off | 0 | -0.008 | 1230 | On | -0.25 |
| Library -1 | 1005 | Off | 0 | -0.008 | 1330 | On | -0.25 |
| Library -2 | 0920 | Off | 0 | -0.004 | 1140 | On | -0.25 |
| Library -2 | 1020 | Off | 0 | -0.008 | 1240 | On | -0.25 |
| Library -2 | 1120 | Off | 0 | -0.019 | 1340 | On | -0.25 |
| Parks Bldg | 0810 | Off | 0 | -0.005 | 1140 | On | -0.25 |
| Parks Bldg | 0910 | Off | 0 | -0.005 | 1240 | On | -0.25 |
| Parks Bldg | 1010 | Off | 0 | -0.009 | 1340 | On | -0.25 |
| ISB Bldg | 0845 | Off | 0 | -0.003 | 1100 | On | -0.25 |
| ISB Bldg | 0945 | Off | 0 | -0.005 | 1200 | On | -0.25 |
| ISB Bldg | 1045 | Off | 0 | -0.003 | 1300 | On | -0.25 |

**Notes:**

* - All PID Readings in parts per million (ppm)

** - All Pressure Readings in inches water

Library - 1 Custodial Closet

Library - 2 IT Room

Parks Bldg West End

ISB Bldg East End

# TABLE 3

## Summary of SSDS Weekly Monitoring
## Queens West Hunters Point Community Library
## Parcel West of Central Boulevard between 47th Boulevard and 48th Avenue
## Queens, New York
## BCP Site No. C241087

| Date | Library-1 | Library-2 | Parks Bldg | ISB Bldg |
|---|---|---|---|---|
| 8/15/2019 | 0.60 | 0.54 | 0.86 | 0.30 |
| 8/23/2019 | 0.69 | 0.69 | 0.91 | 0.35 |
| 8/30/2019 | 0.65 | 0.63 | 0.90 | 0.32 |
| 9/6/2019 | 0.64 | 0.62 | 0.92 | 0.33 |

**Notes:**

All pressure Readings in inches water column

| | |
|---|---|
| Library-1 | Custodial Closet |
| Library-2 | IT Room |
| Parks Bldg | West End |
| ISB Bldg | East End |

Attachment 1

NYSDEC Imported Soil Request

**NEW YORK STATE**
**DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

***Request to Import/Reuse Fill or Soil***

*This form is based on the information required by DER-10, Section 5.4(e). Use of this form is not a substitute for reading the applicable Technical Guidance document.*

## SECTION 1 – SITE BACKGROUND

The allowable site use is: Commercial or Industrial Use

Have Ecological Resources been identified? no

Is this soil originating from the site? no

How many cubic yards of soil will be imported/reused? >1000

If greater than 1000 cubic yards will be imported, enter volume to be imported: 2,500 CY

## SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone? no

Does it contain less than 10%, by weight, material that would pass a size 80 sieve? no

Is this virgin material from a permitted mine or quarry? yes sand component is mined

Is this material recycled concrete or brick from a DEC registered processing facility? no

## SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

21 discrete samples were collected and analyzed for VOCs. 6 composite samples were collected and analyzed for SVOCs, inorganics, chlorinated herbicides & PCBs/pesticides.

The sources for the sand are permitted mines in New Jersey. The sand is amended with topsoil from Somerset, NJ and compost.

---

*Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.*

*If the material meets requirements of DER-10 section 5.5 (other material), no chemical testing needed.*

## SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

All analyses reported non-detect for all organic compounds. Metals were detected. None of the metals concentrations exceeded commercial use or protection of groundwater SCOs.

---

*Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.*

*If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.*

## SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Prima Paving - Customer of source

Location where fill was obtained:

Advanced Soil Technologies - 39 Edgeboro Rd, East Brunswick NJ

Identification of any state or local approvals as a fill source:

NJ Mine registrations

If no approvals are available, provide a brief history of the use of the property that is the fill source:

See attached certificates of origin

Provide a list of supporting documentation included with this request:

Phoenix Environmental Laboratories Analytical reports GCC99892, GCD03374, and GCD20685.
NJ Mine Registration Certificates.
Certificates of Origin

The information provided on this form is accurate and complete.

Stephen Frank

Digitally signed by Stephen Frank
DN: cn=Stephen Frank, o=LiRo Engineers, inc, ou, email=franks@liro.com, c=US
Date: 2019.08.08 09:55:05 -04'00'

Signature

08/08/2019

Date

Stephen Frank

Print Name

LiRo Engineers, Inc

Firm

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

May 24, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | ST | 05/23/19 | |
| Location Code: | TAYLORD | Received by: | CP | 05/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD20685
Phoenix ID: CD20685

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 1

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 360 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 30 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 30 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 1

Phoenix I.D.: CD20685

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Benzene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromobenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromoform | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromomethane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroethane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroform | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloromethane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 3.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromomethane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 35 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 12 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylene chloride | ND | 12 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Naphthalene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| o-Xylene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Styrene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 12 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | 1 |
| Toluene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Total Xylenes | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 1200 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Trichloroethene | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 12 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 93 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 82 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 101 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1) Phoenix I.D.: CD20685
Client ID: SP-3 GRAB VOC 1

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 92 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % 1,2-dichlorobenzene-d4 (50x) | 101 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene (50x) | 100 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane (50x) | 100 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Toluene-d8 (50x) | 98 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 89 | ug/kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 93 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 82 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 101 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 92 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 24 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrolein | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 24 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 120 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylacetate | ND | 5.9 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 05/23/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Volatile Comment:
There was a suppression of the last internal standard in the low level analysis, all affected compounds are reported from the methanol preserved high level analysis which did not exhibit this interference.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**May 24, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

May 24, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | ST | 05/23/19 | |
| Location Code: | TAYLORD | Received by: | CP | 05/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD20685
Phoenix ID: CD20686

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 2

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 27 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 27 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 2

Phoenix I.D.: CD20686

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Benzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromobenzene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromoform | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromomethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroform | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloromethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 3.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromomethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 32 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylene chloride | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Naphthalene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| o-Xylene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Styrene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 1000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | 1 |
| Toluene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Total Xylenes | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 2000 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Trichloroethene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 92 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 80 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 108 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1) Phoenix I.D.: CD20686
Client ID: SP-3 GRAB VOC 2

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 91 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % 1,2-dichlorobenzene-d4 (50x) | 102 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene (50x) | 100 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane (50x) | 99 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Toluene-d8 (50x) | 98 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 80 | ug/kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 92 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 80 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 108 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 91 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 21 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrolein | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 21 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 110 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylacetate | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 05/23/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Volatile Comment:
There was a suppression of the last internal standard in the low level analysis, all affected compounds are reported from the methanol preserved high level analysis which did not exhibit this interference.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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**Phyllis Shiller, Laboratory Director**
**May 24, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

May 24, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | ST | 05/23/19 | |
| Location Code: | TAYLORD | Received by: | CP | 05/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD20685
Phoenix ID: CD20687

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 3

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 330 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 26 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 26 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 3

Phoenix I.D.: CD20687

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Benzene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromobenzene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromoform | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromomethane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroethane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroform | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloromethane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 3.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromomethane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 32 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylene chloride | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Naphthalene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| o-Xylene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Styrene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 560 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | 1 |
| Toluene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Total Xylenes | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 1100 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Trichloroethene | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 95 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 83 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 100 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1) Phoenix I.D.: CD20687
Client ID: SP-3 GRAB VOC 3

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 92 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % 1,2-dichlorobenzene-d4 (50x) | 96 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene (50x) | 97 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane (50x) | 100 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Toluene-d8 (50x) | 96 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 79 | ug/kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 95 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 83 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 100 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 92 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 21 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrolein | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 21 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 110 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylacetate | ND | 5.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 05/23/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Volatile Comment:
There was a suppression of the last internal standard in the low level analysis, all affected compounds are reported from the methanol preserved high level analysis which did not exhibit this interference.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**May 24, 2019**
**Official Report Release To Follow**

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

May 24, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | ST | 05/23/19 | |
| Location Code: | TAYLORD | Received by: | CP | 05/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD20685
Phoenix ID: CD20688

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 4

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 3.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 27 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 27 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 4

Phoenix I.D.: CD20688

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Benzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromobenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromoform | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromomethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroform | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloromethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 3.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromomethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 32 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylene chloride | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Naphthalene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| o-Xylene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Styrene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | 1 |
| Toluene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Total Xylenes | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichloroethene | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 92 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 87 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 104 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 93 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 80 | ug/kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 92 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 87 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 104 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 93 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 21 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrolein | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 21 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 110 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylacetate | ND | 5.4 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 05/23/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

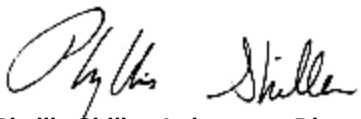
## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**
**May 24, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

May 24, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | ST | 05/23/19 | |
| Location Code: | TAYLORD | Received by: | CP | 05/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD20685
Phoenix ID: CD20689

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 5

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 350 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 35 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 35 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 5

Phoenix I.D.: CD20689

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Benzene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromobenzene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromoform | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromomethane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroethane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroform | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloromethane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 4.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromomethane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 42 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 14 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylene chloride | ND | 14 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Naphthalene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| o-Xylene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Styrene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 580 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 14 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | 1 |
| Toluene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Total Xylenes | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 1200 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Trichloroethene | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 14 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 95 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 81 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 105 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1) Phoenix I.D.: CD20689
Client ID: SP-3 GRAB VOC 5

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 92 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % 1,2-dichlorobenzene-d4 (50x) | 97 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene (50x) | 97 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane (50x) | 97 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Toluene-d8 (50x) | 95 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 100 | ug/kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 95 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 81 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 105 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 92 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 28 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrolein | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 28 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 140 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylacetate | ND | 7.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 05/23/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Volatile Comment:
There was a suppression of the last internal standard in the low level analysis, all affected compounds are reported from the methanol preserved high level analysis which did not exhibit this interference.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**May 24, 2019**
**Official Report Release To Follow**

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

May 24, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | ST | 05/23/19 | |
| Location Code: | TAYLORD | Received by: | CP | 05/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD20685
Phoenix ID: CD20690

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 6

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 360 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 26 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 26 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 6

Phoenix I.D.: CD20690

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Benzene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromobenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromoform | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromomethane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroethane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroform | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloromethane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 3.1 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromomethane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 31 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 10 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylene chloride | ND | 10 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Naphthalene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| o-Xylene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Styrene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 600 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 10 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | 1 |
| Toluene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Total Xylenes | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 1200 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Trichloroethene | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 10 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 91 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 82 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 103 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1) Phoenix I.D.: CD20690
Client ID: SP-3 GRAB VOC 6

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 91 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % 1,2-dichlorobenzene-d4 (50x) | 96 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene (50x) | 98 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane (50x) | 100 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Toluene-d8 (50x) | 96 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 78 | ug/kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 91 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 82 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 103 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 91 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 21 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrolein | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 21 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 100 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylacetate | ND | 5.2 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 05/23/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Volatile Comment:
There was a suppression of the last internal standard in the low level analysis, all affected compounds are reported from the methanol preserved high level analysis which did not exhibit this interference.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**May 24, 2019**
**Official Report Release To Follow**

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

May 24, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | ST | 05/23/19 | |
| Location Code: | TAYLORD | Received by: | CP | 05/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD20685
Phoenix ID: CD20691

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 7

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 320 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 28 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 28 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 GRAB VOC 7

Phoenix I.D.: CD20691

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Benzene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromobenzene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromoform | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Bromomethane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroethane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloroform | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Chloromethane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 3.3 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dibromomethane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 33 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylene chloride | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Naphthalene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| o-Xylene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Styrene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 530 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | 1 |
| Toluene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Total Xylenes | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 1100 | ug/Kg | 50 | 05/24/19 | JLI | SW8260C | |
| Trichloroethene | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 11 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 95 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 81 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 103 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1) Phoenix I.D.: CD20691
Client ID: SP-3 GRAB VOC 7

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 92 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % 1,2-dichlorobenzene-d4 (50x) | 97 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene (50x) | 99 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane (50x) | 102 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| % Toluene-d8 (50x) | 96 | | % | 50 | 05/24/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 83 | ug/kg | 1 | 05/24/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 95 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 81 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 103 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 92 | | % | 1 | 05/24/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 22 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrolein | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 22 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 110 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Methylacetate | ND | 5.5 | ug/Kg | 1 | 05/24/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 05/23/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Volatile Comment:
There was a suppression of the last internal standard in the low level analysis, all affected compounds are reported from the methanol preserved high level analysis which did not exhibit this interference.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**May 24, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

May 24, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | ST | 05/23/19 | |
| Location Code: | TAYLORD | Received by: | CP | 05/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD20685
Phoenix ID: CD20692

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 COMP 1

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|---|
| Silver | < 0.42 | 0.42 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Arsenic | 1.56 | 0.83 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Barium | 39.0 | 0.42 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Beryllium | < 0.33 | 0.33 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Cadmium | < 0.42 | 0.42 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Chromium | 9.52 | 0.42 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Copper | 11.9 | 0.8 | | mg/kg | 1 | 05/24/19 | EK | SW6010D | |
| Mercury | 0.04 | 0.03 | | mg/Kg | 1 | 05/24/19 | MGH | SW7471B | |
| Manganese | 198 | 4.2 | | mg/Kg | 10 | 05/24/19 | EK | SW6010D | |
| Nickel | 6.25 | 0.42 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Lead | 15.8 | 0.42 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Selenium | < 1.7 | 1.7 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Trivalent Chromium | 9.52 | 0.42 | | mg/kg | 1 | 05/24/19 | | CALC 6010-7196 | |
| Zinc | 36.2 | 0.8 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Percent Solid | 81 | | | % | | 05/23/19 | ML | SW846-%Solid | |
| **Chromium, Hex. (SW3060 digestion)** | < 0.49 | 0.49 | | mg/Kg | 1 | 05/24/19 | DA | SW7196A | |
| pH at 25C - Soil | 7.78 | 1.00 | | pH Units | 1 | 05/23/19 22:06 | AP | SW9045 | 1 |
| Redox Potential | 139 | | | mV | 1 | 05/23/19 | AP | SM2580B-09 | 1 |
| **Total Cyanide (SW9010C Distill.)** | < 0.56 | 0.56 | | mg/Kg | 1 | 05/24/19 | O/GD | SW9012B | |
| Soil Extraction for PCB | Completed | | | | | 05/23/19 | MM/V | SW3545A | |
| Soil Extraction for Pesticide | Completed | | | | | 05/23/19 | MM/V | SW3545A | |
| Soil Extraction for SVOA | Completed | | | | | 05/23/19 | JJ/LV | SW3545A | |
| Mercury Digestion | Completed | | | | | 05/24/19 | I/I | SW7471B | |
| Soil Extraction for Herbicide | Completed | | | | | 05/23/19 | C/D | SW8151A | |
| Total Metals Digest | Completed | | | | | 05/23/19 | B/AG | SW3050B | |
| **Chlorinated Herbicides** | | | | | | | | | |
| 2,4,5-T | ND | 100 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A | |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| 2,4,5-TP (Silvex) | ND | 100 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| 2,4-D | ND | 200 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| 2,4-DB | ND | 2000 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| Dalapon | ND | 100 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| Dicamba | ND | 100 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| Dichloroprop | ND | 200 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| Dinoseb | ND | 200 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| **QA/QC Surrogates** | | | | | | | | |
| % DCAA | 63 | | | % | 10 | 05/24/19 | CW | 30 - 150 % |
| % DCAA (Confirmation) | 60 | | | % | 10 | 05/24/19 | CW | 30 - 150 % |
| **Polychlorinated Biphenyls** | | | | | | | | |
| PCB-1016 | ND | 82 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1221 | ND | 82 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1232 | ND | 82 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1242 | ND | 82 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1248 | ND | 82 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1254 | ND | 82 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1260 | ND | 82 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1262 | ND | 82 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1268 | ND | 82 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 74 | | | % | 2 | 05/24/19 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 77 | | | % | 2 | 05/24/19 | SC | 30 - 150 % |
| % TCMX | 74 | | | % | 2 | 05/24/19 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 73 | | | % | 2 | 05/24/19 | SC | 30 - 150 % |
| **Pesticides - Soil** | | | | | | | | |
| 4,4' -DDD | ND | 2.5 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| 4,4' -DDE | ND | 2.5 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| 4,4' -DDT | ND | 2.5 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| a-BHC | ND | 8.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| a-Chlordane | ND | 4.1 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Aldrin | ND | 4.1 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| b-BHC | ND | 8.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Chlordane | ND | 41 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| d-BHC | ND | 8.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Dieldrin | ND | 4.1 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Endosulfan I | ND | 8.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Endosulfan II | ND | 8.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Endosulfan sulfate | ND | 8.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Endrin | ND | 8.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Endrin aldehyde | ND | 8.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Endrin ketone | ND | 8.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| g-BHC | ND | 1.6 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| g-Chlordane | ND | 4.1 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Heptachlor | ND | 8.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Heptachlor epoxide | ND | 8.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Methoxychlor | ND | 41 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Toxaphene | ND | 160 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 81 | | | % | 2 | 05/24/19 | CW | 30 - 150 % |
| % DCBP (Confirmation) | 75 | | | % | 2 | 05/24/19 | CW | 30 - 150 % |
| % TCMX | 71 | | | % | 2 | 05/24/19 | CW | 30 - 150 % |
| % TCMX (Confirmation) | 65 | | | % | 2 | 05/24/19 | CW | 30 - 150 % |
| **Semivolatiles** | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 1,2,4-Trichlorobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 1,2-Dichlorobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 1,2-Diphenylhydrazine | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 1,3-Dichlorobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 1,4-Dichlorobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,4,5-Trichlorophenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,4,6-Trichlorophenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,4-Dichlorophenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,4-Dimethylphenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,4-Dinitrophenol | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,4-Dinitrotoluene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,6-Dinitrotoluene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2-Chloronaphthalene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2-Chlorophenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2-Methylnaphthalene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2-Methylphenol (o-cresol) | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2-Nitroaniline | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2-Nitrophenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 3&4-Methylphenol (m&p-cresol) | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 3,3'-Dichlorobenzidine | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 3-Nitroaniline | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4,6-Dinitro-2-methylphenol | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4-Bromophenyl phenyl ether | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4-Chloro-3-methylphenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4-Chloroaniline | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4-Chlorophenyl phenyl ether | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4-Nitroaniline | ND | 650 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4-Nitrophenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Acenaphthene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Acenaphthylene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Acetophenone | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Aniline | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Anthracene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benz(a)anthracene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzidine | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzo(a)pyrene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzo(b)fluoranthene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzo(ghi)perylene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzo(k)fluoranthene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzoic acid | ND | 810 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzyl butyl phthalate | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Bis(2-chloroethoxy)methane | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| Bis(2-chloroethyl)ether | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Bis(2-chloroisopropyl)ether | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Bis(2-ethylhexyl)phthalate | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Carbazole | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Chrysene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Dibenz(a,h)anthracene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Dibenzofuran | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Diethyl phthalate | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Dimethylphthalate | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Di-n-butylphthalate | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Di-n-octylphthalate | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Fluoranthene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Fluorene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Hexachlorobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Hexachlorobutadiene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Hexachlorocyclopentadiene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Hexachloroethane | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Indeno(1,2,3-cd)pyrene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Isophorone | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Naphthalene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Nitrobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| N-Nitrosodimethylamine | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| N-Nitrosodi-n-propylamine | ND | 200 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| N-Nitrosodiphenylamine | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Pentachloronitrobenzene | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Pentachlorophenol | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Phenanthrene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Phenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Pyrene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Pyridine | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| **QA/QC Surrogates** | | | | | | | | |
| % 2,4,6-Tribromophenol | 99 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % 2-Fluorobiphenyl | 62 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % 2-Fluorophenol | 58 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % Nitrobenzene-d5 | 69 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % Phenol-d5 | 69 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % Terphenyl-d14 | 69 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |

## Additional Semi-Volatile Compounds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,1-Biphenyl | ND | 280 | 120 | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 1,2,4,5-Tetrachlorobenzene | ND | 280 | 140 | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Atrazine | ND | 160 | 81 | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzaldehyde | ND | 280 | 120 | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzo(a)pyrene | ND | 280 | 130 | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Caprolactam | ND | 160 | 280 | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| **QA/QC Surrogates** | | | | | | | | |
| % 2,4,6-Tribromophenol | 99 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % 2-Fluorobiphenyl | 62 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % 2-Fluorophenol | 58 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % Nitrobenzene-d5 | 69 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| % Phenol-d5 | 69 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % Terphenyl-d14 | 69 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**May 24, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

May 24, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | ST | 05/23/19 | |
| Location Code: | TAYLORD | Received by: | CP | 05/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD20685
Phoenix ID: CD20693

Project ID: ADVANCED SOIL 39 EDGEBORO RD (S1)
Client ID: SP-3 COMP 2

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|---|
| Silver | < 0.41 | 0.41 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Arsenic | 2.02 | 0.82 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Barium | 41.5 | 0.41 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Beryllium | < 0.33 | 0.33 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Cadmium | 0.41 | 0.41 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Chromium | 9.33 | 0.41 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Copper | 15.9 | 0.8 | | mg/kg | 1 | 05/24/19 | EK | SW6010D | |
| Mercury | < 0.03 | 0.03 | | mg/Kg | 1 | 05/24/19 | MGH | SW7471B | |
| Manganese | 225 | 4.1 | | mg/Kg | 10 | 05/24/19 | EK | SW6010D | |
| Nickel | 7.67 | 0.41 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Lead | 16.4 | 0.41 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Selenium | < 1.6 | 1.6 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Trivalent Chromium | 9.33 | 0.41 | | mg/kg | 1 | 05/24/19 | | CALC 6010-7196 | |
| Zinc | 38.8 | 0.8 | | mg/Kg | 1 | 05/24/19 | EK | SW6010D | |
| Percent Solid | 80 | | | % | | 05/23/19 | ML | SW846-%Solid | |
| **Chromium, Hex. (SW3060 digestion)** | < 0.49 | 0.49 | | mg/Kg | 1 | 05/24/19 | DA | SW7196A | |
| pH at 25C - Soil | 7.71 | 1.00 | | pH Units | 1 | 05/23/19 22:06 | AP | SW9045 | 1 |
| Redox Potential | 142 | | | mV | 1 | 05/23/19 | AP | SM2580B-09 | 1 |
| **Total Cyanide (SW9010C Distill.)** | < 0.57 | 0.57 | | mg/Kg | 1 | 05/24/19 | O/GD | SW9012B | |
| Soil Extraction for PCB | Completed | | | | | 05/23/19 | MM/V | SW3545A | |
| Soil Extraction for Pesticide | Completed | | | | | 05/23/19 | MM/V | SW3545A | |
| Soil Extraction for SVOA | Completed | | | | | 05/23/19 | JJ/LV | SW3545A | |
| Mercury Digestion | Completed | | | | | 05/24/19 | I/I | SW7471B | |
| Soil Extraction for Herbicide | Completed | | | | | 05/23/19 | C/D | SW8151A | |
| Total Metals Digest | Completed | | | | | 05/23/19 | B/AG | SW3050B | |
| **Chlorinated Herbicides** | | | | | | | | | |
| 2,4,5-T | ND | 100 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A | |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| 2,4,5-TP (Silvex) | ND | 100 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| 2,4-D | ND | 200 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| 2,4-DB | ND | 2000 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| Dalapon | ND | 100 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| Dicamba | ND | 100 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| Dichloroprop | ND | 200 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| Dinoseb | ND | 200 | | ug/Kg | 10 | 05/24/19 | CW | SW8151A |
| **QA/QC Surrogates** | | | | | | | | |
| % DCAA | 58 | | | % | 10 | 05/24/19 | CW | 30 - 150 % |
| % DCAA (Confirmation) | 58 | | | % | 10 | 05/24/19 | CW | 30 - 150 % |
| **Polychlorinated Biphenyls** | | | | | | | | |
| PCB-1016 | ND | 83 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1221 | ND | 83 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1232 | ND | 83 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1242 | ND | 83 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1248 | ND | 83 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1254 | ND | 83 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1260 | ND | 83 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1262 | ND | 83 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| PCB-1268 | ND | 83 | | ug/Kg | 2 | 05/24/19 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 69 | | | % | 2 | 05/24/19 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 73 | | | % | 2 | 05/24/19 | SC | 30 - 150 % |
| % TCMX | 73 | | | % | 2 | 05/24/19 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 73 | | | % | 2 | 05/24/19 | SC | 30 - 150 % |
| **Pesticides - Soil** | | | | | | | | |
| 4,4' -DDD | ND | 3.0 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| 4,4' -DDE | ND | 2.5 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| 4,4' -DDT | ND | 2.5 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| a-BHC | ND | 8.3 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| a-Chlordane | ND | 4.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Aldrin | ND | 4.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| b-BHC | ND | 8.3 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Chlordane | ND | 42 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| d-BHC | ND | 8.3 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Dieldrin | ND | 4.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Endosulfan I | ND | 8.3 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Endosulfan II | ND | 8.3 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Endosulfan sulfate | ND | 8.3 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Endrin | ND | 8.3 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Endrin aldehyde | ND | 8.3 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Endrin ketone | ND | 8.3 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| g-BHC | ND | 1.7 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| g-Chlordane | ND | 4.2 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Heptachlor | ND | 8.3 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Heptachlor epoxide | ND | 8.3 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Methoxychlor | ND | 42 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |
| Toxaphene | ND | 170 | | ug/Kg | 2 | 05/24/19 | CW | SW8081B |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 74 | | | % | 2 | 05/24/19 | CW | 30 - 150 % |
| % DCBP (Confirmation) | 72 | | | % | 2 | 05/24/19 | CW | 30 - 150 % |
| % TCMX | 76 | | | % | 2 | 05/24/19 | CW | 30 - 150 % |
| % TCMX (Confirmation) | 70 | | | % | 2 | 05/24/19 | CW | 30 - 150 % |
| **Semivolatiles** | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 1,2,4-Trichlorobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 1,2-Dichlorobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 1,2-Diphenylhydrazine | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 1,3-Dichlorobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 1,4-Dichlorobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,4,5-Trichlorophenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,4,6-Trichlorophenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,4-Dichlorophenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,4-Dimethylphenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,4-Dinitrophenol | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,4-Dinitrotoluene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2,6-Dinitrotoluene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2-Chloronaphthalene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2-Chlorophenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2-Methylnaphthalene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2-Methylphenol (o-cresol) | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2-Nitroaniline | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 2-Nitrophenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 3&4-Methylphenol (m&p-cresol) | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 3,3'-Dichlorobenzidine | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 3-Nitroaniline | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4,6-Dinitro-2-methylphenol | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4-Bromophenyl phenyl ether | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4-Chloro-3-methylphenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4-Chloroaniline | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4-Chlorophenyl phenyl ether | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4-Nitroaniline | ND | 650 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 4-Nitrophenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Acenaphthene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Acenaphthylene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Acetophenone | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Aniline | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Anthracene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benz(a)anthracene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzidine | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzo(a)pyrene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzo(b)fluoranthene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzo(ghi)perylene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzo(k)fluoranthene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzoic acid | ND | 810 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzyl butyl phthalate | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Bis(2-chloroethoxy)methane | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| Bis(2-chloroethyl)ether | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Bis(2-chloroisopropyl)ether | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Bis(2-ethylhexyl)phthalate | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Carbazole | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Chrysene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Dibenz(a,h)anthracene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Dibenzofuran | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Diethyl phthalate | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Dimethylphthalate | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Di-n-butylphthalate | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Di-n-octylphthalate | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Fluoranthene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Fluorene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Hexachlorobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Hexachlorobutadiene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Hexachlorocyclopentadiene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Hexachloroethane | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Indeno(1,2,3-cd)pyrene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Isophorone | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Naphthalene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Nitrobenzene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| N-Nitrosodimethylamine | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| N-Nitrosodi-n-propylamine | ND | 200 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| N-Nitrosodiphenylamine | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Pentachloronitrobenzene | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Pentachlorophenol | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Phenanthrene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Phenol | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Pyrene | ND | 280 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Pyridine | ND | 400 | | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| **QA/QC Surrogates** | | | | | | | | |
| % 2,4,6-Tribromophenol | 97 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % 2-Fluorobiphenyl | 63 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % 2-Fluorophenol | 60 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % Nitrobenzene-d5 | 75 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % Phenol-d5 | 67 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % Terphenyl-d14 | 65 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |

## Additional Semi-Volatile Compounds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,1-Biphenyl | ND | 280 | 120 | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| 1,2,4,5-Tetrachlorobenzene | ND | 280 | 140 | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Atrazine | ND | 160 | 81 | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzaldehyde | ND | 280 | 120 | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Benzo(a)pyrene | ND | 280 | 130 | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| Caprolactam | ND | 160 | 280 | ug/Kg | 1 | 05/24/19 | WB | SW8270D |
| **QA/QC Surrogates** | | | | | | | | |
| % 2,4,6-Tribromophenol | 97 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % 2-Fluorobiphenyl | 63 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % 2-Fluorophenol | 60 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % Nitrobenzene-d5 | 75 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| % Phenol-d5 | 67 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |
| % Terphenyl-d14 | 65 | | | % | 1 | 05/24/19 | WB | 30 - 130 % |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

Semi-Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

Hexavalent Chromium:
This sample is in a reducing state.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**May 24, 2019**
**Official Report Release To Follow**

# Sample Criteria Exceedances Report

## GCD20685 - TAYLORD



Criteria: NJ: NRC, RC; NY: 375, 375GWP, 375RRS, 37

State: NJ

| SampNo | Acode | Phoenix Analyte | Criteria | Result | RL | Criteria | RL Criteria | Analysis Units |
|---|---|---|---|---|---|---|---|---|

*** No Data to Display ***

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

# NY/NJ CHAIN OF CUSTODY RECORD

Temp 2.3C Pg 2 of 2

**PHOENIX** *Environmental Laboratories, Inc.*

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
**Client Services (860) 645-8726**

**Contact Options:**
[ ] Fax:
[ ] Phone:
[x] Email: scott@taylordenvironment.com

Customer: Taylord Environment, Inc.
Address: PO Box 613
Wingdale, NY
scott@taylordenvironment.com

Project: Advanced Soil 39 Edgeboro Road (S1 Stockpile)
East Brunswick, NJ

Project P.O:

***This section MUST be completed with Bottle Quantities.***

Sampler's Signature

**Client Sample - Information - Identification**

Date: 5/23/19

**Matrix Code:**
**DW**=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water **RW**=Raw Water
**SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil **B**=Bulk **L**=Liquid

Analysis Request

| PHOENIX USE ONLY SAMPLE # | Customer Sample Identification | Sample Matrix | | PART 375 VOC only | PART 375 (NO VOC) | Soil VOA Vials [ 1 ] methanol [ 3 ] H2O | GL Soil container ( 8 ) oz | GL Soil container ( ) oz | 40 ml VOA Vial [ ] As is [ ] HCl | GL Amber 1000ml [ ] As is [ ] H2SO4 | PL As is [ ] 250ml [ ] 500ml [ ] 1000ml | PL H2SO4 [ ] 250ml [ ] 500ml | PL HNO3 250ml | PL NaOH 250ml | Bacteria Bottle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 206885 | SP-3 Grab VOC 1 | s | 5/23/19 | X | | 3 | | | | | | | | | |
| 206886 | SP-3 Grab VOC 2 | s | | x | | 3 | | | | | | | | | |
| 206887 | SP-3 Grab VOC 3 | s | | x | | 3 | | | | | | | | | |
| 206888 | SP-3 Grab VOC 4 | s | | x | | 3 | | | | | | | | | |
| 206889 | SP-3 Grab VOC 5 | s | | x | | 3 | | | | | | | | | |
| 206890 | SP-3 Grab VOC 6 | s | | x | | 3 | | | | | | | | | |
| 206891 | SP-3 Grab VOC 7 | s | | x | | 3 | | | | | | | | | |
| 206892 | SP-3 Comp 1 | s | | | X | | 2 | | | | | | | | |
| 206893 | SP-3 Comp 2 | s | | | X | | 2 | | | | | | | | |
| | | | | | | | 2 | | | | | | | | |

| Relinquished by: | Accepted by: | Date: | Time: |
|---|---|---|---|
| | | 5/23/19 | 14:5 |
| | | 5/23/19 | 15:00 |
| | Krystal Hall | 5/23/19 | 16:36 |

**Comments, Special Requirements or Regulations:**

**Please Report Analytes on the Taylord Environment Watch List**

24 Hour TAT

**Turnaround:**
1 Day*
2 Days*
[ ] 3 Days*
[ ] 5 Days
[ ] 10 Days
[ ] Other
*SURCHARGE APPLIES

**NJ**
[x] Res. Criteria
[x] Non-Res. Criteria
[x] Impact to GW Soil Cleanup Criteria
[ ] GW Criteria

**NY**
[x] NY 375 GWP
[x] NY375 Unrestricted Use Soil
[x] NY375 Residential
[x] Restricted/Residential
[ ] Commercial
[ ] Industrial

**Data Format**
[ ] Phoenix Std Report
[x] Excel
[x] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] NJ Hazsite EDD
[ ] NY EZ EDD (ASP)
[ ] Other

**Data Package**
[ ] NJ Reduced Deliv. *
[ ] NY Enhanced (ASP B)*
[ ] Other

**State where samples were collected:** NJ

**Note: VOC SAMPLES ARE GRAB SAMPLES, COMPOSITE SAMPLES ARE FIVE POINT COMPOSITES SAMPLES**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 25, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/22/19 | 15:00 |
| Location Code: | TAYLORD | Received by: | CP | 04/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCC99892
Phoenix ID: CC99892

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 1

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1,1-Trichloroethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1,2-Trichloroethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1-Dichloroethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1-Dichloroethene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1-Dichloropropene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2,3-Trichloropropane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dibromoethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dichlorobenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dichloroethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dichloropropane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,3-Dichlorobenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,3-Dichloropropane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,4-Dichlorobenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 2,2-Dichloropropane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 2-Chlorotoluene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 2-Hexanone | ND | 39 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 2-Isopropyltoluene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | 1 |
| 4-Chlorotoluene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 4-Methyl-2-pentanone | ND | 39 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 1

Phoenix I.D.: CC99892

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 39 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Acrylonitrile | ND | 15 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Benzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromobenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromochloromethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromodichloromethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromoform | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromomethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Carbon Disulfide | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Carbon tetrachloride | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Chlorobenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Chloroethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Chloroform | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Chloromethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| cis-1,2-Dichloroethene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| cis-1,3-Dichloropropene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Dibromochloromethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Dibromomethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Dichlorodifluoromethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Ethylbenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Hexachlorobutadiene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Isopropylbenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| m&p-Xylene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Methyl Ethyl Ketone | ND | 39 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 15 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Methylene chloride | ND | 15 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Naphthalene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| n-Butylbenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| n-Propylbenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| o-Xylene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| p-Isopropyltoluene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| sec-Butylbenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Styrene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| tert-Butylbenzene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Tetrachloroethene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Tetrahydrofuran (THF) | ND | 15 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | 1 |
| Toluene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Total Xylenes | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| trans-1,2-Dichloroethene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| trans-1,3-Dichloropropene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 15 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Trichloroethene | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Trichlorofluoromethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Trichlorotrifluoroethane | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Vinyl chloride | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 100 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 96 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 98 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 1

Phoenix I.D.: CC99892

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 98 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 120 | ug/kg | 1 | 04/23/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 100 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 96 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 98 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Toluene-d8 | 98 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 31 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Acrolein | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Acrylonitrile | ND | 31 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Tert-butyl alcohol | ND | 150 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Methylacetate | ND | 7.7 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Field Extraction | Completed | | | | 04/22/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**April 25, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 25, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/22/19 | 15:05 |
| Location Code: | TAYLORD | Received by: | CP | 04/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCC99892
Phoenix ID: CC99893

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 2

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1-Dichloroethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1-Dichloroethene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1-Dichloropropene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2,3-Trichloropropane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dibromoethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dichlorobenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dichloroethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dichloropropane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,3-Dichlorobenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,3-Dichloropropane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,4-Dichlorobenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 2,2-Dichloropropane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 2-Chlorotoluene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 2-Hexanone | ND | 27 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 2-Isopropyltoluene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | 1 |
| 4-Chlorotoluene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 4-Methyl-2-pentanone | ND | 27 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 2

Phoenix I.D.: CC99893

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 27 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Acrylonitrile | ND | 11 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Benzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromobenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromochloromethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromodichloromethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromoform | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromomethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Carbon Disulfide | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Carbon tetrachloride | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Chlorobenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Chloroethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Chloroform | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Chloromethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Dibromochloromethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Dibromomethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Dichlorodifluoromethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Ethylbenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Hexachlorobutadiene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Isopropylbenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| m&p-Xylene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Methyl Ethyl Ketone | ND | 27 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 11 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Methylene chloride | ND | 11 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Naphthalene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| n-Butylbenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| n-Propylbenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| o-Xylene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| p-Isopropyltoluene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| sec-Butylbenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Styrene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| tert-Butylbenzene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Tetrachloroethene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Tetrahydrofuran (THF) | ND | 11 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | 1 |
| Toluene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Total Xylenes | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 11 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Trichloroethene | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Trichlorofluoromethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Trichlorotrifluoroethane | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Vinyl chloride | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 100 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 96 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 98 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 2

Phoenix I.D.: CC99893

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 98 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 80 | ug/kg | 1 | 04/23/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 100 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 96 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 98 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Toluene-d8 | 98 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 21 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Acrolein | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Acrylonitrile | ND | 21 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Tert-butyl alcohol | ND | 110 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Methylacetate | ND | 5.3 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Field Extraction | Completed | | | | 04/22/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**April 25, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 25, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/22/19 | 15:10 |
| Location Code: | TAYLORD | Received by: | CP | 04/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCC99892
Phoenix ID: CC99894

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 3

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1-Dichloroethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1-Dichloroethene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,1-Dichloropropene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2,3-Trichloropropane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dibromoethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dichlorobenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dichloroethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,2-Dichloropropane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,3-Dichlorobenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,3-Dichloropropane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 1,4-Dichlorobenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 2,2-Dichloropropane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 2-Chlorotoluene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 2-Hexanone | ND | 27 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 2-Isopropyltoluene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | 1 |
| 4-Chlorotoluene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| 4-Methyl-2-pentanone | ND | 27 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 3

Phoenix I.D.: CC99894

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 27 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Acrylonitrile | ND | 11 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Benzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromobenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromochloromethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromodichloromethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromoform | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Bromomethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Carbon Disulfide | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Carbon tetrachloride | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Chlorobenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Chloroethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Chloroform | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Chloromethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Dibromochloromethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Dibromomethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Dichlorodifluoromethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Ethylbenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Hexachlorobutadiene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Isopropylbenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| m&p-Xylene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Methyl Ethyl Ketone | ND | 27 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 11 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Methylene chloride | ND | 11 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Naphthalene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| n-Butylbenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| n-Propylbenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| o-Xylene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| p-Isopropyltoluene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| sec-Butylbenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Styrene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| tert-Butylbenzene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Tetrachloroethene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Tetrahydrofuran (THF) | ND | 11 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | 1 |
| Toluene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Total Xylenes | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 11 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Trichloroethene | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Trichlorofluoromethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Trichlorotrifluoroethane | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Vinyl chloride | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 100 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 96 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 98 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 3

Phoenix I.D.: CC99894

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 98 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 82 | ug/kg | 1 | 04/23/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 100 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 96 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 98 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| % Toluene-d8 | 98 | | % | 1 | 04/23/19 | HM | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 22 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Acrolein | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Acrylonitrile | ND | 22 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Tert-butyl alcohol | ND | 110 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Methylacetate | ND | 5.5 | ug/Kg | 1 | 04/23/19 | HM | SW8260C | |
| Field Extraction | Completed | | | | 04/22/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**April 25, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 25, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/22/19 | 15:15 |
| Location Code: | TAYLORD | Received by: | CP | 04/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCC99892
Phoenix ID: CC99895

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 4

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1-Dichloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1-Dichloroethene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1-Dichloropropene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,3-Trichloropropane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dibromoethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dichloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dichloropropane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,3-Dichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,3-Dichloropropane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,4-Dichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2,2-Dichloropropane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2-Chlorotoluene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2-Hexanone | ND | 28 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2-Isopropyltoluene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | 1 |
| 4-Chlorotoluene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 4-Methyl-2-pentanone | ND | 28 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 4

Phoenix I.D.: CC99895

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 28 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Acrylonitrile | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Benzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromochloromethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromodichloromethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromoform | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromomethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Carbon Disulfide | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Carbon tetrachloride | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chloroform | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chloromethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Dibromochloromethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Dibromomethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Dichlorodifluoromethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Ethylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Hexachlorobutadiene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Isopropylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| m&p-Xylene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methyl Ethyl Ketone | ND | 28 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methylene chloride | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Naphthalene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| n-Butylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| n-Propylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| o-Xylene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| p-Isopropyltoluene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| sec-Butylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Styrene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| tert-Butylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Tetrachloroethene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Tetrahydrofuran (THF) | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | 1 |
| Toluene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Total Xylenes | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Trichloroethene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Trichlorofluoromethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Trichlorotrifluoroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Vinyl chloride | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 95 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 97 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 4

Phoenix I.D.: CC99895

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 98 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 85 | ug/kg | 1 | 04/24/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 95 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 97 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Toluene-d8 | 98 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 23 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Acrolein | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Acrylonitrile | ND | 23 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Tert-butyl alcohol | ND | 110 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methylacetate | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Field Extraction | Completed | | | | 04/22/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**April 25, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 25, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/22/19 | 15:20 |
| Location Code: | TAYLORD | Received by: | CP | 04/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCC99892
Phoenix ID: CC99896

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 5

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1-Dichloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1-Dichloroethene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1-Dichloropropene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,3-Trichloropropane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dibromoethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dichloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dichloropropane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,3-Dichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,3-Dichloropropane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,4-Dichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2,2-Dichloropropane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2-Chlorotoluene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2-Hexanone | ND | 28 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2-Isopropyltoluene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | 1 |
| 4-Chlorotoluene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 4-Methyl-2-pentanone | ND | 28 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 5

Phoenix I.D.: CC99896

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 28 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Acrylonitrile | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Benzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromochloromethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromodichloromethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromoform | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromomethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Carbon Disulfide | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Carbon tetrachloride | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chloroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chloroform | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chloromethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Dibromochloromethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Dibromomethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Dichlorodifluoromethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Ethylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Hexachlorobutadiene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Isopropylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| m&p-Xylene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methyl Ethyl Ketone | ND | 28 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methylene chloride | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Naphthalene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| n-Butylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| n-Propylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| o-Xylene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| p-Isopropyltoluene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| sec-Butylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Styrene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| tert-Butylbenzene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Tetrachloroethene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Tetrahydrofuran (THF) | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | 1 |
| Toluene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Total Xylenes | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Trichloroethene | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Trichlorofluoromethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Trichlorotrifluoroethane | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Vinyl chloride | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 100 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 96 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 99 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 5

Phoenix I.D.: CC99896

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 97 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 85 | ug/kg | 1 | 04/24/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 100 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 96 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 99 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Toluene-d8 | 97 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 23 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Acrolein | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Acrylonitrile | ND | 23 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Tert-butyl alcohol | ND | 110 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methylacetate | ND | 5.7 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Field Extraction | Completed | | | | 04/22/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**April 25, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 25, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/22/19 | 15:25 |
| Location Code: | TAYLORD | Received by: | CP | 04/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCC99892
Phoenix ID: CC99897

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 6

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1-Dichloroethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1-Dichloroethene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1-Dichloropropene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,3-Trichloropropane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dibromoethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dichlorobenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dichloroethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dichloropropane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,3-Dichlorobenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,3-Dichloropropane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,4-Dichlorobenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2,2-Dichloropropane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2-Chlorotoluene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2-Hexanone | ND | 26 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2-Isopropyltoluene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | 1 |
| 4-Chlorotoluene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 4-Methyl-2-pentanone | ND | 26 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 6

Phoenix I.D.: CC99897

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 26 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Acrylonitrile | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Benzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromobenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromochloromethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromodichloromethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromoform | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromomethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Carbon Disulfide | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Carbon tetrachloride | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chlorobenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chloroethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chloroform | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chloromethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Dibromochloromethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Dibromomethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Dichlorodifluoromethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Ethylbenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Hexachlorobutadiene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Isopropylbenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| m&p-Xylene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methyl Ethyl Ketone | ND | 26 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methylene chloride | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Naphthalene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| n-Butylbenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| n-Propylbenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| o-Xylene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| p-Isopropyltoluene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| sec-Butylbenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Styrene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| tert-Butylbenzene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Tetrachloroethene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Tetrahydrofuran (THF) | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | 1 |
| Toluene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Total Xylenes | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Trichloroethene | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Trichlorofluoromethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Trichlorotrifluoroethane | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Vinyl chloride | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 100 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 96 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 97 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 6

Phoenix I.D.: CC99897

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 98 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 79 | ug/kg | 1 | 04/24/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 100 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 96 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 97 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Toluene-d8 | 98 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 21 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Acrolein | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Acrylonitrile | ND | 21 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Tert-butyl alcohol | ND | 110 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methylacetate | ND | 5.3 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Field Extraction | Completed | | | | 04/22/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**April 25, 2019**
**Official Report Release To Follow**

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 25, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/22/19 | 15:30 |
| Location Code: | TAYLORD | Received by: | CP | 04/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCC99892
Phoenix ID: CC99898

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 7

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1-Dichloroethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1-Dichloroethene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,1-Dichloropropene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,3-Trichloropropane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dibromoethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dichlorobenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dichloroethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,2-Dichloropropane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,3-Dichlorobenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,3-Dichloropropane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 1,4-Dichlorobenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2,2-Dichloropropane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2-Chlorotoluene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2-Hexanone | ND | 28 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 2-Isopropyltoluene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | 1 |
| 4-Chlorotoluene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| 4-Methyl-2-pentanone | ND | 28 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 7

Phoenix I.D.: CC99898

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 28 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Acrylonitrile | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Benzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromobenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromochloromethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromodichloromethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromoform | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Bromomethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Carbon Disulfide | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Carbon tetrachloride | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chlorobenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chloroethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chloroform | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Chloromethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Dibromochloromethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Dibromomethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Dichlorodifluoromethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Ethylbenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Hexachlorobutadiene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Isopropylbenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| m&p-Xylene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methyl Ethyl Ketone | ND | 28 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methylene chloride | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Naphthalene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| n-Butylbenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| n-Propylbenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| o-Xylene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| p-Isopropyltoluene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| sec-Butylbenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Styrene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| tert-Butylbenzene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Tetrachloroethene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Tetrahydrofuran (THF) | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | 1 |
| Toluene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Total Xylenes | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 11 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Trichloroethene | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Trichlorofluoromethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Trichlorotrifluoroethane | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Vinyl chloride | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 96 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 98 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 GRAB VOC 7

Phoenix I.D.: CC99898

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 98 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 84 | ug/kg | 1 | 04/24/19 | HM | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Bromofluorobenzene | 96 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Dibromofluoromethane | 98 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| % Toluene-d8 | 98 | | % | 1 | 04/24/19 | HM | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 22 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Acrolein | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Acrylonitrile | ND | 22 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Tert-butyl alcohol | ND | 110 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Methylacetate | ND | 5.6 | ug/Kg | 1 | 04/24/19 | HM | SW8260C | |
| Field Extraction | Completed | | | | 04/22/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**April 25, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 25, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/22/19 | 14:50 |
| Location Code: | TAYLORD | Received by: | CP | 04/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCC99892
Phoenix ID: CC99899

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 COMP 1

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|---|
| Silver | < 0.34 | 0.34 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Arsenic | 0.78 | 0.68 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Barium | 3.03 | 0.34 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Beryllium | < 0.27 | 0.27 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Cadmium | < 0.34 | 0.34 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Chromium | 14.1 | 0.34 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Copper | 0.8 | 0.7 | | mg/kg | 1 | 04/24/19 | EK | SW6010D | |
| Mercury | < 0.03 | 0.03 | | mg/Kg | 1 | 04/24/19 | RS | SW7471B | |
| Manganese | 11.5 | 0.34 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Nickel | < 0.34 | 0.34 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Lead | 1.61 | 0.34 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Selenium | < 1.4 | 1.4 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Trivalent Chromium | 14.1 | 0.34 | | mg/kg | 1 | 04/24/19 | | CALC 6010-7196 | |
| Zinc | 3.3 | 0.7 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Percent Solid | 93 | | | % | | 04/23/19 | ML | SW846-%Solid | |
| **Chromium, Hex. (SW3060 digestion)** | < 0.40 | 0.40 | | mg/Kg | 1 | 04/24/19 | EG | SW7196A | |
| pH at 25C - Soil | 5.81 | 1.00 | | pH Units | 1 | 04/23/19 22:37 | AP | SW9045 | 1 |
| Redox Potential | 200 | | | mV | 1 | 04/23/19 | AP | SM2580B-09 | 1 |
| **Total Cyanide (SW9010C Distill.)** | < 0.54 | 0.54 | | mg/Kg | 1 | 04/24/19 | O/GD | SW9012B | |
| Soil Extraction for PCB | Completed | | | | | 04/23/19 | S/M/VV | SW3545A | |
| Soil Extraction for Pesticides | Completed | | | | | 04/23/19 | S/M/VV | SW3545A | |
| Soil Extraction for SVOA | Completed | | | | | 04/23/19 | JJ/LV | SW3545A | |
| Mercury Digestion | Completed | | | | | 04/24/19 | I/I | SW7471B | |
| Soil Extraction for Herbicide | Completed | | | | | 04/24/19 | C/D | SW8151A | |
| Total Metals Digest | Completed | | | | | 04/23/19 | S/AG | SW3050B | |
| **Chlorinated Herbicides** | | | | | | | | | |
| 2,4,5-T | ND | 90 | | ug/Kg | 10 | 04/25/19 | CW | SW8151A | |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| 2,4,5-TP (Silvex) | ND | 90 | | ug/Kg | 10 | 04/25/19 | CW | SW8151A |
| 2,4-D | ND | 180 | | ug/Kg | 10 | 04/25/19 | CW | SW8151A |
| 2,4-DB | ND | 1800 | | ug/Kg | 10 | 04/25/19 | CW | SW8151A |
| Dalapon | ND | 90 | | ug/Kg | 10 | 04/25/19 | CW | SW8151A |
| Dicamba | ND | 90 | | ug/Kg | 10 | 04/25/19 | CW | SW8151A |
| Dichloroprop | ND | 180 | | ug/Kg | 10 | 04/25/19 | CW | SW8151A |
| Dinoseb | ND | 180 | | ug/Kg | 10 | 04/25/19 | CW | SW8151A |
| **QA/QC Surrogates** | | | | | | | | |
| % DCAA | 41 | | | % | 10 | 04/25/19 | CW | 30 - 150 % |
| % DCAA (Confirmation) | 48 | | | % | 10 | 04/25/19 | CW | 30 - 150 % |
| **Polychlorinated Biphenyls** | | | | | | | | |
| PCB-1016 | ND | 360 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1221 | ND | 360 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1232 | ND | 360 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1242 | ND | 360 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1248 | ND | 360 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1254 | ND | 360 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1260 | ND | 360 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1262 | ND | 360 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1268 | ND | 360 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 70 | | | % | 10 | 04/24/19 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 65 | | | % | 10 | 04/24/19 | SC | 30 - 150 % |
| % TCMX | 54 | | | % | 10 | 04/24/19 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 62 | | | % | 10 | 04/24/19 | SC | 30 - 150 % |
| **Pesticides - Soil** | | | | | | | | |
| 4,4' -DDD | ND | 2.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| 4,4' -DDE | ND | 2.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| 4,4' -DDT | ND | 2.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| a-BHC | ND | 7.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| a-Chlordane | ND | 3.6 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Aldrin | ND | 3.6 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| b-BHC | ND | 7.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Chlordane | ND | 36 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| d-BHC | ND | 7.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Dieldrin | ND | 3.6 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Endosulfan I | ND | 7.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Endosulfan II | ND | 7.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Endosulfan sulfate | ND | 7.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Endrin | ND | 7.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Endrin aldehyde | ND | 7.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Endrin ketone | ND | 7.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| g-BHC | ND | 1.4 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| g-Chlordane | ND | 3.6 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Heptachlor | ND | 7.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Heptachlor epoxide | ND | 7.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Methoxychlor | ND | 36 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Toxaphene | ND | 140 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 56 | | | % | 2 | 04/24/19 | CW | 30 - 150 % |
| % DCBP (Confirmation) | 83 | | | % | 2 | 04/24/19 | CW | 30 - 150 % |
| % TCMX | 50 | | | % | 2 | 04/24/19 | CW | 30 - 150 % |
| % TCMX (Confirmation) | 48 | | | % | 2 | 04/24/19 | CW | 30 - 150 % |
| **Semivolatiles** | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 1,2,4-Trichlorobenzene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 1,2-Dichlorobenzene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 1,2-Diphenylhydrazine | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 1,3-Dichlorobenzene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 1,4-Dichlorobenzene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,4,5-Trichlorophenol | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,4,6-Trichlorophenol | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,4-Dichlorophenol | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,4-Dimethylphenol | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,4-Dinitrophenol | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,4-Dinitrotoluene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,6-Dinitrotoluene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2-Chloronaphthalene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2-Chlorophenol | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2-Methylnaphthalene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2-Methylphenol (o-cresol) | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2-Nitroaniline | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2-Nitrophenol | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 3&4-Methylphenol (m&p-cresol) | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 3,3'-Dichlorobenzidine | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 3-Nitroaniline | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4,6-Dinitro-2-methylphenol | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4-Bromophenyl phenyl ether | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4-Chloro-3-methylphenol | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4-Chloroaniline | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4-Chlorophenyl phenyl ether | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4-Nitroaniline | ND | 570 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4-Nitrophenol | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Acenaphthene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Acenaphthylene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Acetophenone | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Aniline | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Anthracene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benz(a)anthracene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzidine | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzo(a)pyrene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzo(b)fluoranthene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzo(ghi)perylene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzo(k)fluoranthene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzoic acid | ND | 710 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzyl butyl phthalate | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Bis(2-chloroethoxy)methane | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| Bis(2-chloroethyl)ether | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Bis(2-chloroisopropyl)ether | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Bis(2-ethylhexyl)phthalate | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Carbazole | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Chrysene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Dibenz(a,h)anthracene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Dibenzofuran | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Diethyl phthalate | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Dimethylphthalate | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Di-n-butylphthalate | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Di-n-octylphthalate | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Fluoranthene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Fluorene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Hexachlorobenzene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Hexachlorobutadiene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Hexachlorocyclopentadiene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Hexachloroethane | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Indeno(1,2,3-cd)pyrene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Isophorone | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Naphthalene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Nitrobenzene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| N-Nitrosodimethylamine | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| N-Nitrosodi-n-propylamine | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| N-Nitrosodiphenylamine | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Pentachloronitrobenzene | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Pentachlorophenol | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Phenanthrene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Phenol | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Pyrene | ND | 250 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Pyridine | ND | 360 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| **QA/QC Surrogates** | | | | | | | | |
| % 2,4,6-Tribromophenol | 58 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % 2-Fluorobiphenyl | 50 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % 2-Fluorophenol | 48 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % Nitrobenzene-d5 | 48 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % Phenol-d5 | 52 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % Terphenyl-d14 | 52 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |

## Additional Semi-Volatile Compounds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,1-Biphenyl | ND | 250 | 110 | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 1,2,4,5-Tetrachlorobenzene | ND | 250 | 120 | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Atrazine | ND | 140 | 71 | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzaldehyde | ND | 250 | 110 | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzo(a)pyrene | ND | 250 | 120 | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Caprolactam | ND | 140 | 250 | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| **QA/QC Surrogates** | | | | | | | | |
| % 2,4,6-Tribromophenol | 58 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % 2-Fluorobiphenyl | 50 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % 2-Fluorophenol | 48 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % Nitrobenzene-d5 | 48 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| % Phenol-d5 | 52 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % Terphenyl-d14 | 52 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

Hexavalent Chromium:
This sample is in a reducing state.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**April 25, 2019**
**Official Report Release To Follow**

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 25, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/22/19 | 14:55 |
| Location Code: | TAYLORD | Received by: | CP | 04/23/19 | 16:36 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCC99892
Phoenix ID: CC99900

Project ID: ADVANCED SOIL 39 EDGEBORO ROAD
Client ID: SP-1 COMP 2

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|---|
| Silver | < 0.36 | 0.36 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Arsenic | < 0.71 | 0.71 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Barium | 2.17 | 0.36 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Beryllium | < 0.29 | 0.29 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Cadmium | < 0.36 | 0.36 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Chromium | 2.61 | 0.36 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Copper | < 0.7 | 0.7 | | mg/kg | 1 | 04/24/19 | EK | SW6010D | |
| Mercury | < 0.03 | 0.03 | | mg/Kg | 1 | 04/24/19 | RS | SW7471B | |
| Manganese | 9.43 | 0.36 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Nickel | < 0.36 | 0.36 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Lead | 1.34 | 0.36 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Selenium | < 1.4 | 1.4 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Trivalent Chromium | 2.61 | 0.36 | | mg/kg | 1 | 04/24/19 | | CALC 6010-7196 | |
| Zinc | 1.7 | 0.7 | | mg/Kg | 1 | 04/24/19 | EK | SW6010D | |
| Percent Solid | 96 | | | % | | 04/23/19 | ML | SW846-%Solid | |
| **Chromium, Hex. (SW3060 digestion)** | < 0.41 | 0.41 | | mg/Kg | 1 | 04/24/19 | EG | SW7196A | |
| pH at 25C - Soil | 5.24 | 1.00 | | pH Units | 1 | 04/23/19 22:37 | AP | SW9045 | 1 |
| Redox Potential | 184 | | | mV | 1 | 04/23/19 | AP | SM2580B-09 | 1 |
| **Total Cyanide (SW9010C Distill.)** | < 0.52 | 0.52 | | mg/Kg | 1 | 04/24/19 | O/GD | SW9012B | |
| Soil Extraction for PCB | Completed | | | | | 04/23/19 | MM/VV | SW3545A | |
| Soil Extraction for Pesticides | Completed | | | | | 04/23/19 | MM/VV | SW3545A | |
| Soil Extraction for SVOA | Completed | | | | | 04/23/19 | JJ/LV | SW3545A | |
| Mercury Digestion | Completed | | | | | 04/24/19 | I/I | SW7471B | |
| Soil Extraction for Herbicide | Completed | | | | | 04/23/19 | C/D | SW8151A | |
| Total Metals Digest | Completed | | | | | 04/23/19 | S/AG | SW3050B | |
| **Chlorinated Herbicides** | | | | | | | | | |
| 2,4,5-T | ND | 87 | | ug/Kg | 10 | 04/24/19 | CW | SW8151A | |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| 2,4,5-TP (Silvex) | ND | 87 | | ug/Kg | 10 | 04/24/19 | CW | SW8151A |
| 2,4-D | ND | 170 | | ug/Kg | 10 | 04/24/19 | CW | SW8151A |
| 2,4-DB | ND | 1700 | | ug/Kg | 10 | 04/24/19 | CW | SW8151A |
| Dalapon | ND | 87 | | ug/Kg | 10 | 04/24/19 | CW | SW8151A |
| Dicamba | ND | 87 | | ug/Kg | 10 | 04/24/19 | CW | SW8151A |
| Dichloroprop | ND | 170 | | ug/Kg | 10 | 04/24/19 | CW | SW8151A |
| Dinoseb | ND | 170 | | ug/Kg | 10 | 04/24/19 | CW | SW8151A |
| **QA/QC Surrogates** | | | | | | | | |
| % DCAA | 54 | | | % | 10 | 04/24/19 | CW | 30 - 150 % |
| % DCAA (Confirmation) | 56 | | | % | 10 | 04/24/19 | CW | 30 - 150 % |
| **Polychlorinated Biphenyls** | | | | | | | | |
| PCB-1016 | ND | 350 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1221 | ND | 350 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1232 | ND | 350 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1242 | ND | 350 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1248 | ND | 350 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1254 | ND | 350 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1260 | ND | 350 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1262 | ND | 350 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| PCB-1268 | ND | 350 | | ug/Kg | 10 | 04/24/19 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 104 | | | % | 10 | 04/24/19 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 94 | | | % | 10 | 04/24/19 | SC | 30 - 150 % |
| % TCMX | 80 | | | % | 10 | 04/24/19 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 87 | | | % | 10 | 04/24/19 | SC | 30 - 150 % |
| **Pesticides - Soil** | | | | | | | | |
| 4,4' -DDD | ND | 2.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| 4,4' -DDE | ND | 2.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| 4,4' -DDT | ND | 2.1 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| a-BHC | ND | 6.9 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| a-Chlordane | ND | 3.5 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Aldrin | ND | 3.5 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| b-BHC | ND | 6.9 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Chlordane | ND | 35 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| d-BHC | ND | 6.9 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Dieldrin | ND | 3.5 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Endosulfan I | ND | 6.9 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Endosulfan II | ND | 6.9 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Endosulfan sulfate | ND | 6.9 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Endrin | ND | 6.9 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Endrin aldehyde | ND | 6.9 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Endrin ketone | ND | 6.9 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| g-BHC | ND | 1.4 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| g-Chlordane | ND | 3.5 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Heptachlor | ND | 6.9 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Heptachlor epoxide | ND | 6.9 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Methoxychlor | ND | 35 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |
| Toxaphene | ND | 140 | | ug/Kg | 2 | 04/24/19 | CW | SW8081B |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 84 | | | % | 2 | 04/24/19 | CW | 30 - 150 % |
| % DCBP (Confirmation) | 108 | | | % | 2 | 04/24/19 | CW | 30 - 150 % |
| % TCMX | 67 | | | % | 2 | 04/24/19 | CW | 30 - 150 % |
| % TCMX (Confirmation) | 68 | | | % | 2 | 04/24/19 | CW | 30 - 150 % |
| **Semivolatiles** | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 1,2,4-Trichlorobenzene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 1,2-Dichlorobenzene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 1,2-Diphenylhydrazine | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 1,3-Dichlorobenzene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 1,4-Dichlorobenzene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,4,5-Trichlorophenol | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,4,6-Trichlorophenol | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,4-Dichlorophenol | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,4-Dimethylphenol | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,4-Dinitrophenol | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,4-Dinitrotoluene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2,6-Dinitrotoluene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2-Chloronaphthalene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2-Chlorophenol | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2-Methylnaphthalene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2-Methylphenol (o-cresol) | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2-Nitroaniline | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 2-Nitrophenol | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 3&4-Methylphenol (m&p-cresol) | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 3,3'-Dichlorobenzidine | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 3-Nitroaniline | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4,6-Dinitro-2-methylphenol | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4-Bromophenyl phenyl ether | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4-Chloro-3-methylphenol | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4-Chloroaniline | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4-Chlorophenyl phenyl ether | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4-Nitroaniline | ND | 550 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 4-Nitrophenol | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Acenaphthene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Acenaphthylene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Acetophenone | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Aniline | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Anthracene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benz(a)anthracene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzidine | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzo(a)pyrene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzo(b)fluoranthene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzo(ghi)perylene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzo(k)fluoranthene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzoic acid | ND | 690 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzyl butyl phthalate | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Bis(2-chloroethoxy)methane | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| Bis(2-chloroethyl)ether | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Bis(2-chloroisopropyl)ether | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Bis(2-ethylhexyl)phthalate | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Carbazole | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Chrysene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Dibenz(a,h)anthracene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Dibenzofuran | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Diethyl phthalate | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Dimethylphthalate | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Di-n-butylphthalate | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Di-n-octylphthalate | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Fluoranthene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Fluorene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Hexachlorobenzene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Hexachlorobutadiene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Hexachlorocyclopentadiene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Hexachloroethane | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Indeno(1,2,3-cd)pyrene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Isophorone | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Naphthalene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Nitrobenzene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| N-Nitrosodimethylamine | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| N-Nitrosodi-n-propylamine | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| N-Nitrosodiphenylamine | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Pentachloronitrobenzene | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Pentachlorophenol | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Phenanthrene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Phenol | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Pyrene | ND | 240 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Pyridine | ND | 350 | | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| **QA/QC Surrogates** | | | | | | | | |
| % 2,4,6-Tribromophenol | 71 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % 2-Fluorobiphenyl | 61 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % 2-Fluorophenol | 58 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % Nitrobenzene-d5 | 58 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % Phenol-d5 | 62 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % Terphenyl-d14 | 61 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |

## Additional Semi-Volatile Compounds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,1-Biphenyl | ND | 240 | 110 | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| 1,2,4,5-Tetrachlorobenzene | ND | 240 | 120 | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Atrazine | ND | 140 | 69 | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzaldehyde | ND | 240 | 100 | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Benzo(a)pyrene | ND | 240 | 110 | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| Caprolactam | ND | 140 | 240 | ug/Kg | 1 | 04/24/19 | WB | SW8270D |
| **QA/QC Surrogates** | | | | | | | | |
| % 2,4,6-Tribromophenol | 71 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % 2-Fluorobiphenyl | 61 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % 2-Fluorophenol | 58 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % Nitrobenzene-d5 | 58 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| % Phenol-d5 | 62 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |
| % Terphenyl-d14 | 61 | | | % | 1 | 04/24/19 | WB | 30 - 130 % |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

Hexavalent Chromium:
This sample is in a reducing state.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**April 25, 2019**
**Official Report Release To Follow**

# Sample Criteria Exceedances Report

## GCC99892 - TAYLORD



Criteria: None

State: NY

| SampNo | Acode | Phoenix Analyte | Criteria | Result | RL | Criteria | RL Criteria | Analysis Units |
|---|---|---|---|---|---|---|---|---|

*** No Data to Display ***

Cooler: Yes [x] No [ ]
Coolant: IPK [x] ICE [ ] No [ ]

# PHOENIX
*Environmental Laboratories, Inc.*

## NY/NJ CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
**Client Services (860) 645-8726**

Temp 3.4 °C Pg of

**Contact Options:**
[ ] Fax:
[ ] Phone:
[x] Email: scott@taylordenvironment.com

Customer: Taylord Environment, Inc.
Address: PO Box 613
Wingdale, NY 12594
914-419-9740

Project: Advanced Soil 39 Edgeboro Road
Report to:
Invoice to:

Project P.O:

***This section MUST be completed with Bottle Quantities.***

Sampler's Signature: [signature] Date: 4/22/19

**Matrix Code:**
**DW**=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
**RW**=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solic **W**=Wipe
**OIL**=Oil **B**=Bulk **L**=Liquid

| PHOENIX USE ONLY SAMPLE # | Customer Sample Identification | Sample Matrix | | | Analysis Request: Part 375 VOC Only | Part 375 Anayltes (no VOC) | Soil VOA Vials [ ] methanol [ ] H2O | GL Soil container ( 8 ) oz | GL Soil container ( ) oz | 40 ml VOA Vial [ ] As is [ ] HCl | GL Amber 1000ml [ ] As is [ ] H2SO4 | PL As is [ ] 250ml [ ] 500ml [ ] 1000ml | PL H2SO4 [ ] 250ml [ ] 500ml [ ] 1000ml | PL HNO3 250ml | PL NaOH 250ml | Bacteria Bottle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 99892 | SP-1 Grab VOC 1 | S | 4/22/2019 | 1500 | x | | 3 | | | | | | | | | |
| 99893 | SP-1 Grab VOC 2 | S | 4/22/2019 | 1505 | x | | 3 | | | | | | | | | |
| 99894 | SP-1 Grab VOC 3 | S | 4/22/2019 | 1510 | x | | 3 | | | | | | | | | |
| 99895 | SP-1 Grab VOC 4 | S | 4/22/2019 | 1515 | x | | 3 | | | | | | | | | |
| 99896 | SP-1 Grab VOC 5 | S | 4/22/2019 | 1520 | x | | 3 | | | | | | | | | |
| 99897 | SP-1 Grab VOC 6 | S | 4/22/2019 | 1525 | x | | 3 | | | | | | | | | |
| 99898 | SP-1 Grab VOC 7 | S | 4/22/2019 | 1530 | x | | 3 | | | | | | | | | |
| 99899 | SP-1 Comp 1 | S | 4/22/2019 | 1450 | | x | | 2 | | | | | | | | |
| 99900 | SP-1 Comp 2 | S | 4/22/2019 | 1455 | | x | | 2 | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

| Relinquished by: | Accepted by: | Date: | Time: |
|---|---|---|---|
| [signature] | [signature] | 4.23.19 | 12:20 |
| [signature] | [signature] | 4.23.19 | 16:30 |

**Comments, Special Requirements or Regulations:**

**Please report analytes on the Taylord Environment watch list

24 Hour TAT

**Turnaround:**
[x] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[ ] 5 Days
[ ] 10 Days
[ ] Other
*SURCHARGE APPLIES

**NJ**
[ ] Res. Criteria
[ ] Non-Res. Criteria
[ ] Impact to GW Soil Cleanup Criteria
[ ] GW Criteria

**NY**
[ ] NY 375 GWP
[ ] NY375 Unrestricted Use Soil
[ ] NY375 Residential
[ ] Restricted/Residential
[ ] Commercial
[ ] Industrial

**Data Format**
[ ] Phoenix Stc Report
[ ] Excel
[ ] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] NJ Hazsite EDD
[ ] NY EZ EDD (ASP)
[ ] Other

**Data Package**
[ ] NJ Reduced Deliv. *
[ ] NY Enhanced (ASP B) *
[ ] Other

**State where samples were collected:** NJ

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 30, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/29/19 | |
| Location Code: | TAYLORD | Received by: | LB | 04/29/19 | 16:00 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD03374
Phoenix ID: CD03374

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 1

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 3.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 30 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 30 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 1

Phoenix I.D.: CD03374

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Benzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Bromobenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Bromoform | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Bromomethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Chloroethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Chloroform | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Chloromethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 3.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Dibromomethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 36 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 12 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Methylene chloride | ND | 12 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Naphthalene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| o-Xylene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Styrene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 12 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | 1 |
| Toluene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Total Xylenes | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 12 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Trichloroethene | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 12 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 95 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 95 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD. Phoenix I.D.: CD03374
Client ID: SP-2 GRAB VOC 1

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 99 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 89 | ug/kg | 1 | 04/29/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 95 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 95 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 99 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 24 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Acrolein | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 24 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 120 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Methylacetate | ND | 6.0 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 04/29/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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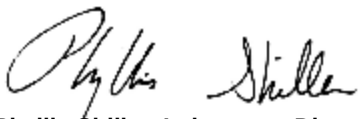
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**
**April 30, 2019**
**Official Report Release To Follow**

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 30, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/29/19 | |
| Location Code: | TAYLORD | Received by: | LB | 04/29/19 | 16:00 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD03374
Phoenix ID: CD03375

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 2

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 3.4 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 28 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 28 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 2

Phoenix I.D.: CD03375

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Benzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Bromobenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Bromoform | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Bromomethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Chloroethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Chloroform | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Chloromethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 3.4 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Dibromomethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 34 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 11 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Methylene chloride | ND | 11 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Naphthalene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| o-Xylene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Styrene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 11 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | 1 |
| Toluene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Total Xylenes | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 11 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Trichloroethene | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 11 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 94 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 96 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD. Phoenix I.D.: CD03375
Client ID: SP-2 GRAB VOC 2

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 99 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 84 | ug/kg | 1 | 04/29/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 94 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 96 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 99 | | % | 1 | 04/29/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 22 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Acrolein | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 22 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 110 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Methylacetate | ND | 5.6 | ug/Kg | 1 | 04/29/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 04/29/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

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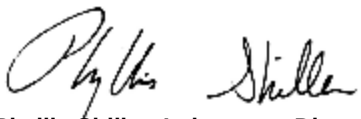


**Phyllis Shiller, Laboratory Director**
**April 30, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 30, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/29/19 | |
| Location Code: | TAYLORD | Received by: | LB | 04/29/19 | 16:00 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD03374
Phoenix ID: CD03376

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 3

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 3.4 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 29 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 29 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 3

Phoenix I.D.: CD03376

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Benzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromobenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromoform | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromomethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloroethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloroform | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloromethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 3.4 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dibromomethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 34 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 11 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methylene chloride | ND | 11 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Naphthalene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| o-Xylene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Styrene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 11 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | 1 |
| Toluene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Total Xylenes | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 11 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichloroethene | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 11 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 98 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 93 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 96 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD. Phoenix I.D.: CD03376
Client ID: SP-2 GRAB VOC 3

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 98 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 86 | ug/kg | 1 | 04/30/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 98 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 93 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 96 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 98 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 23 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrolein | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 23 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 110 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methylacetate | ND | 5.7 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 04/29/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

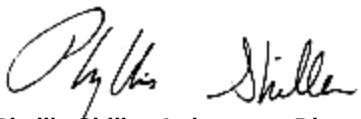
## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**
**April 30, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 30, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/29/19 | |
| Location Code: | TAYLORD | Received by: | LB | 04/29/19 | 16:00 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD03374
Phoenix ID: CD03377

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 4

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 3.5 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 29 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 29 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 4

Phoenix I.D.: CD03377

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Benzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromoform | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromomethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloroethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloroform | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloromethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 3.5 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dibromomethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 35 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methylene chloride | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Naphthalene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| o-Xylene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Styrene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | 1 |
| Toluene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Total Xylenes | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichloroethene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 93 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 95 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD. Phoenix I.D.: CD03377
Client ID: SP-2 GRAB VOC 4

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 99 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 88 | ug/kg | 1 | 04/30/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 93 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 95 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 99 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 23 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrolein | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 23 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 120 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methylacetate | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 04/29/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

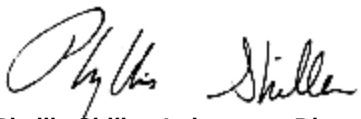
## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**
**April 30, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 30, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/29/19 | |
| Location Code: | TAYLORD | Received by: | LB | 04/29/19 | 16:00 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD03374
Phoenix ID: CD03378

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 5

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 3.5 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 29 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 29 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 5

Phoenix I.D.: CD03378

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Benzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromoform | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromomethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloroethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloroform | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloromethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 3.5 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dibromomethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 35 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methylene chloride | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Naphthalene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| o-Xylene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Styrene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | 1 |
| Toluene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Total Xylenes | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichloroethene | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 98 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 92 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 96 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD. Phoenix I.D.: CD03378
Client ID: SP-2 GRAB VOC 5

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 98 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 88 | ug/kg | 1 | 04/30/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 98 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 92 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 96 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 98 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 23 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrolein | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 23 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 120 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methylacetate | ND | 5.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 04/29/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

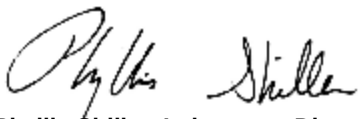
## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**
**April 30, 2019**
**Official Report Release To Follow**

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 30, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/29/19 | |
| Location Code: | TAYLORD | Received by: | LB | 04/29/19 | 16:00 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD03374
Phoenix ID: CD03379

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 6

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 4.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 41 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 41 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 6

Phoenix I.D.: CD03379

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Benzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromobenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromoform | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromomethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloroethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloroform | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloromethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 4.9 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dibromomethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 49 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 16 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methylene chloride | ND | 16 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Naphthalene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| o-Xylene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Styrene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 16 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | 1 |
| Toluene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Total Xylenes | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 16 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichloroethene | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 16 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 94 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 95 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD. Phoenix I.D.: CD03379
Client ID: SP-2 GRAB VOC 6

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 99 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 100 | ug/kg | 1 | 04/30/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 94 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 95 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 99 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 33 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrolein | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 33 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 160 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methylacetate | ND | 8.2 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 04/29/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

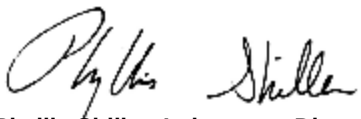
## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**
**April 30, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 30, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/29/19 | |
| Location Code: | TAYLORD | Received by: | LB | 04/29/19 | 16:00 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD03374
Phoenix ID: CD03380

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 7

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,1-Trichloroethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,2,2-Tetrachloroethane | ND | 3.5 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1,2-Trichloroethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloroethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloroethene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,1-Dichloropropene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,3-Trichlorobenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,3-Trichloropropane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,4-Trichlorobenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2,4-Trimethylbenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dibromo-3-chloropropane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dibromoethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichlorobenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichloroethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,2-Dichloropropane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3,5-Trimethylbenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3-Dichlorobenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,3-Dichloropropane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 1,4-Dichlorobenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2,2-Dichloropropane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Chlorotoluene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Hexanone | ND | 29 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 2-Isopropyltoluene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | 1 |
| 4-Chlorotoluene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| 4-Methyl-2-pentanone | ND | 29 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 GRAB VOC 7

Phoenix I.D.: CD03380

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| Acetone | ND | 50 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Benzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromobenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromochloromethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromodichloromethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromoform | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Bromomethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Carbon Disulfide | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Carbon tetrachloride | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chlorobenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloroethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloroform | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Chloromethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| cis-1,2-Dichloroethene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| cis-1,3-Dichloropropene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dibromochloromethane | ND | 3.5 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dibromomethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Dichlorodifluoromethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Ethylbenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Hexachlorobutadiene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Isopropylbenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| m&p-Xylene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methyl Ethyl Ketone | ND | 35 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methyl t-butyl ether (MTBE) | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methylene chloride | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Naphthalene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| n-Butylbenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| n-Propylbenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| o-Xylene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| p-Isopropyltoluene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| sec-Butylbenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Styrene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| tert-Butylbenzene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tetrachloroethene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tetrahydrofuran (THF) | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | 1 |
| Toluene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Total Xylenes | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,2-Dichloroethene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,3-Dichloropropene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| trans-1,4-dichloro-2-butene | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichloroethene | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichlorofluoromethane | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Trichlorotrifluoroethane | ND | 12 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Vinyl chloride | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 92 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 95 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |

Project ID: ADVANCED SOIL 39 EDGEBORO RD. Phoenix I.D.: CD03380
Client ID: SP-2 GRAB VOC 7

| Parameter | Result | RL/ PQL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|
| % Toluene-d8 | 99 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| **1,4-dioxane** | | | | | | | | |
| 1,4-dioxane | ND | 87 | ug/kg | 1 | 04/30/19 | JLI | SW8260C | |
| **QA/QC Surrogates** | | | | | | | | |
| % 1,2-dichlorobenzene-d4 | 99 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Bromofluorobenzene | 92 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Dibromofluoromethane | 95 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| % Toluene-d8 | 99 | | % | 1 | 04/30/19 | JLI | 70 - 130 % | |
| **Volatiles** | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 23 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrolein | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Acrylonitrile | ND | 23 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Tert-butyl alcohol | ND | 120 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Methylacetate | ND | 5.8 | ug/Kg | 1 | 04/30/19 | JLI | SW8260C | |
| Field Extraction | Completed | | | | 04/29/19 | | SW5035A | 1 |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

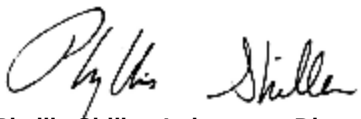
## Comments:

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

Volatile Comment:
To achieve client's objectives, where the lowest calibration standard or LOD justifies lowering the RL/PQL, the RL/PQL of some compounds have been lowered to meet criteria.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**
**April 30, 2019**
**Official Report Release To Follow**

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

# Analysis Report

April 30, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/29/19 | |
| Location Code: | TAYLORD | Received by: | LB | 04/29/19 | 16:00 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD03374
Phoenix ID: CD03381

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 COMP 1

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|---|
| Silver | < 0.37 | 0.37 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Arsenic | 0.79 | 0.74 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Barium | 14.3 | 0.37 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Beryllium | < 0.29 | 0.29 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Cadmium | < 0.37 | 0.37 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Chromium | 4.18 | 0.37 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Copper | 2.6 | 0.7 | | mg/kg | 1 | 04/30/19 | EK | SW6010D | |
| Mercury | < 0.03 | 0.03 | | mg/Kg | 1 | 04/30/19 | RS | SW7471B | |
| Manganese | 71.1 | 0.37 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Nickel | 2.08 | 0.37 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Lead | 3.05 | 0.37 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Selenium | < 1.5 | 1.5 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Trivalent Chromium | 4.18 | 0.37 | | mg/kg | 1 | 04/30/19 | | CALC 6010-7196 | |
| Zinc | 8.2 | 0.7 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Percent Solid | 93 | | | % | | 04/29/19 | ML | SW846-%Solid | |
| **Chromium, Hex. (SW3060 digestion)** | < 0.42 | 0.42 | | mg/Kg | 1 | 04/30/19 | KMH | SW7196A | |
| pH at 25C - Soil | 7.52 | 1.00 | | pH Units | 1 | 04/29/19 20:07 | AP | SW9045 | 1 |
| Redox Potential | 191 | | | mV | 1 | 04/29/19 | AP | SM2580B-09 | 1 |
| **Total Cyanide (SW9010C Distill.)** | < 0.54 | 0.54 | | mg/Kg | 1 | 04/30/19 | O/GD | SW9012B | |
| Soil Extraction for PCB | Completed | | | | | 04/29/19 | MM/V | SW3545A | |
| Soil Extraction for Pesticide | Completed | | | | | 04/29/19 | MM/V | SW3545A | |
| Soil Extraction for SVOA | Completed | | | | | 04/29/19 | BB/LV | SW3545A | |
| Mercury Digestion | Completed | | | | | 04/30/19 | I/I | SW7471B | |
| Soil Extraction for Herbicide | Completed | | | | | 04/29/19 | C/D | SW8151A | |
| Total Metals Digest | Completed | | | | | 04/29/19 | B/AG | SW3050B | |
| **Chlorinated Herbicides** | | | | | | | | | |
| 2,4,5-T | ND | 89 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A | |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| 2,4,5-TP (Silvex) | ND | 89 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| 2,4-D | ND | 180 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| 2,4-DB | ND | 1800 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| Dalapon | ND | 89 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| Dicamba | ND | 89 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| Dichloroprop | ND | 180 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| Dinoseb | ND | 180 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| **QA/QC Surrogates** | | | | | | | | |
| % DCAA | 51 | | | % | 10 | 04/30/19 | CW | 30 - 150 % |
| % DCAA (Confirmation) | 36 | | | % | 10 | 04/30/19 | CW | 30 - 150 % |
| **Polychlorinated Biphenyls** | | | | | | | | |
| PCB-1016 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1221 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1232 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1242 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1248 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1254 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1260 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1262 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1268 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 38 | | | % | 2 | 04/30/19 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 40 | | | % | 2 | 04/30/19 | SC | 30 - 150 % |
| % TCMX | 41 | | | % | 2 | 04/30/19 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 40 | | | % | 2 | 04/30/19 | SC | 30 - 150 % |
| **Pesticides - Soil** | | | | | | | | |
| 4,4' -DDD | ND | 2.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| 4,4' -DDE | ND | 2.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| 4,4' -DDT | ND | 2.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| a-BHC | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| a-Chlordane | ND | 3.5 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Aldrin | ND | 3.5 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| b-BHC | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Chlordane | ND | 35 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| d-BHC | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Dieldrin | ND | 3.5 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Endosulfan I | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Endosulfan II | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Endosulfan sulfate | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Endrin | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Endrin aldehyde | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Endrin ketone | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| g-BHC | ND | 1.4 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| g-Chlordane | ND | 3.5 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Heptachlor | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Heptachlor epoxide | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Methoxychlor | ND | 35 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Toxaphene | ND | 140 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 42 | | | % | 2 | 04/30/19 | CW | 30 - 150 % |
| % DCBP (Confirmation) | 41 | | | % | 2 | 04/30/19 | CW | 30 - 150 % |
| % TCMX | 35 | | | % | 2 | 04/30/19 | CW | 30 - 150 % |
| % TCMX (Confirmation) | 37 | | | % | 2 | 04/30/19 | CW | 30 - 150 % |
| **Semivolatiles** | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 1,2,4-Trichlorobenzene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 1,2-Dichlorobenzene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 1,2-Diphenylhydrazine | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 1,3-Dichlorobenzene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 1,4-Dichlorobenzene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,4,5-Trichlorophenol | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,4,6-Trichlorophenol | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,4-Dichlorophenol | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,4-Dimethylphenol | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,4-Dinitrophenol | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,4-Dinitrotoluene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,6-Dinitrotoluene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2-Chloronaphthalene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2-Chlorophenol | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2-Methylnaphthalene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2-Methylphenol (o-cresol) | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2-Nitroaniline | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2-Nitrophenol | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 3&4-Methylphenol (m&p-cresol) | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 3,3'-Dichlorobenzidine | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 3-Nitroaniline | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4,6-Dinitro-2-methylphenol | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4-Bromophenyl phenyl ether | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4-Chloro-3-methylphenol | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4-Chloroaniline | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4-Chlorophenyl phenyl ether | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4-Nitroaniline | ND | 560 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4-Nitrophenol | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Acenaphthene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Acenaphthylene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Acetophenone | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Aniline | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Anthracene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benz(a)anthracene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzidine | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzo(a)pyrene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzo(b)fluoranthene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzo(ghi)perylene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzo(k)fluoranthene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzoic acid | ND | 700 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzyl butyl phthalate | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Bis(2-chloroethoxy)methane | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| Bis(2-chloroethyl)ether | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Bis(2-chloroisopropyl)ether | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Bis(2-ethylhexyl)phthalate | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Carbazole | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Chrysene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Dibenz(a,h)anthracene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Dibenzofuran | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Diethyl phthalate | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Dimethylphthalate | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Di-n-butylphthalate | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Di-n-octylphthalate | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Fluoranthene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Fluorene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Hexachlorobenzene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Hexachlorobutadiene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Hexachlorocyclopentadiene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Hexachloroethane | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Indeno(1,2,3-cd)pyrene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Isophorone | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Naphthalene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Nitrobenzene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| N-Nitrosodimethylamine | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| N-Nitrosodi-n-propylamine | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| N-Nitrosodiphenylamine | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Pentachloronitrobenzene | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Pentachlorophenol | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Phenanthrene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Phenol | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Pyrene | ND | 250 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Pyridine | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| **QA/QC Surrogates** | | | | | | | | |
| % 2,4,6-Tribromophenol | 85 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % 2-Fluorobiphenyl | 68 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % 2-Fluorophenol | 61 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % Nitrobenzene-d5 | 67 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % Phenol-d5 | 71 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % Terphenyl-d14 | 69 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |

## Additional Semi-Volatile Compounds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,1-Biphenyl | ND | 250 | 110 | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 1,2,4,5-Tetrachlorobenzene | ND | 250 | 120 | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Atrazine | ND | 140 | 70 | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzaldehyde | ND | 250 | 100 | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzo(a)pyrene | ND | 250 | 110 | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Caprolactam | ND | 140 | 250 | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| **QA/QC Surrogates** | | | | | | | | |
| % 2,4,6-Tribromophenol | 85 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % 2-Fluorobiphenyl | 68 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % 2-Fluorophenol | 61 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % Nitrobenzene-d5 | 67 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| % Phenol-d5 | 71 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % Terphenyl-d14 | 69 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

This sample was not collected in accordance with EPA method 5035. NELAC requires the laboratory to qualify the volatile soil data as biased low.

Hexavalent Chromium:
This sample is in a reducing state.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**April 30, 2019**
**Official Report Release To Follow**

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

# Analysis Report

April 30, 2019

FOR: Attn: Mr. Scott Taylor
Taylord Environment, Inc.
PO BOX 613
Wingdale, NY 12594

| Sample Information | | Custody Information | | Date | Time |
|---|---|---|---|---|---|
| Matrix: | SOIL | Collected by: | | 04/29/19 | |
| Location Code: | TAYLORD | Received by: | LB | 04/29/19 | 16:00 |
| Rush Request: | 24 Hour | Analyzed by: | see "By" below | | |
| P.O.#: | | | | | |

## Laboratory Data

SDG ID: GCD03374
Phoenix ID: CD03382

Project ID: ADVANCED SOIL 39 EDGEBORO RD.
Client ID: SP-2 COMP 2

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference | |
|---|---|---|---|---|---|---|---|---|---|
| Silver | < 0.38 | 0.38 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Arsenic | < 0.76 | 0.76 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Barium | 10.8 | 0.38 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Beryllium | < 0.30 | 0.30 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Cadmium | < 0.38 | 0.38 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Chromium | 4.53 | 0.38 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Copper | 2.0 | 0.8 | | mg/kg | 1 | 04/30/19 | EK | SW6010D | |
| Mercury | < 0.03 | 0.03 | | mg/Kg | 1 | 04/30/19 | RS | SW7471B | |
| Manganese | 53.5 | 0.38 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Nickel | 1.94 | 0.38 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Lead | 2.75 | 0.38 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Selenium | < 1.5 | 1.5 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Trivalent Chromium | 4.53 | 0.38 | | mg/kg | 1 | 04/30/19 | | CALC 6010-7196 | |
| Zinc | 7.2 | 0.8 | | mg/Kg | 1 | 04/30/19 | EK | SW6010D | |
| Percent Solid | 93 | | | % | | 04/29/19 | ML | SW846-%Solid | |
| **Chromium, Hex. (SW3060 digestion)** | < 0.41 | 0.41 | | mg/Kg | 1 | 04/30/19 | KMH | SW7196A | |
| pH at 25C - Soil | 7.49 | 1.00 | | pH Units | 1 | 04/29/19 20:07 | AP | SW9045 | 1 |
| Redox Potential | 176 | | | mV | 1 | 04/29/19 | AP | SM2580B-09 | 1 |
| **Total Cyanide (SW9010C Distill.)** | < 0.54 | 0.54 | | mg/Kg | 1 | 04/30/19 | O/GD | SW9012B | |
| Soil Extraction for PCB | Completed | | | | | 04/29/19 | MM/V | SW3545A | |
| Soil Extraction for Pesticide | Completed | | | | | 04/29/19 | MM/V | SW3545A | |
| Soil Extraction for SVOA | Completed | | | | | 04/29/19 | BB/LV | SW3545A | |
| Mercury Digestion | Completed | | | | | 04/30/19 | I/I | SW7471B | |
| Soil Extraction for Herbicide | Completed | | | | | 04/29/19 | C/D | SW8151A | |
| Total Metals Digest | Completed | | | | | 04/29/19 | B/AG | SW3050B | |
| **Chlorinated Herbicides** | | | | | | | | | |
| 2,4,5-T | ND | 88 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A | |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| 2,4,5-TP (Silvex) | ND | 88 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| 2,4-D | ND | 180 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| 2,4-DB | ND | 1800 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| Dalapon | ND | 88 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| Dicamba | ND | 88 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| Dichloroprop | ND | 180 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| Dinoseb | ND | 180 | | ug/Kg | 10 | 04/30/19 | CW | SW8151A |
| **QA/QC Surrogates** | | | | | | | | |
| % DCAA | 50 | | | % | 10 | 04/30/19 | CW | 30 - 150 % |
| % DCAA (Confirmation) | 38 | | | % | 10 | 04/30/19 | CW | 30 - 150 % |
| **Polychlorinated Biphenyls** | | | | | | | | |
| PCB-1016 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1221 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1232 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1242 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1248 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1254 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1260 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1262 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| PCB-1268 | ND | 71 | | ug/Kg | 2 | 04/30/19 | SC | SW8082A |
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 48 | | | % | 2 | 04/30/19 | SC | 30 - 150 % |
| % DCBP (Confirmation) | 52 | | | % | 2 | 04/30/19 | SC | 30 - 150 % |
| % TCMX | 55 | | | % | 2 | 04/30/19 | SC | 30 - 150 % |
| % TCMX (Confirmation) | 54 | | | % | 2 | 04/30/19 | SC | 30 - 150 % |
| **Pesticides - Soil** | | | | | | | | |
| 4,4' -DDD | ND | 2.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| 4,4' -DDE | ND | 2.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| 4,4' -DDT | ND | 2.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| a-BHC | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| a-Chlordane | ND | 3.5 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Aldrin | ND | 3.5 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| b-BHC | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Chlordane | ND | 35 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| d-BHC | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Dieldrin | ND | 3.5 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Endosulfan I | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Endosulfan II | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Endosulfan sulfate | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Endrin | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Endrin aldehyde | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Endrin ketone | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| g-BHC | ND | 1.4 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| g-Chlordane | ND | 3.5 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Heptachlor | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Heptachlor epoxide | ND | 7.1 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Methoxychlor | ND | 35 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |
| Toxaphene | ND | 140 | | ug/Kg | 2 | 04/30/19 | CW | SW8081B |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| **QA/QC Surrogates** | | | | | | | | |
| % DCBP | 57 | | | % | 2 | 04/30/19 | CW | 30 - 150 % |
| % DCBP (Confirmation) | 58 | | | % | 2 | 04/30/19 | CW | 30 - 150 % |
| % TCMX | 48 | | | % | 2 | 04/30/19 | CW | 30 - 150 % |
| % TCMX (Confirmation) | 50 | | | % | 2 | 04/30/19 | CW | 30 - 150 % |
| **Semivolatiles** | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 1,2,4-Trichlorobenzene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 1,2-Dichlorobenzene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 1,2-Diphenylhydrazine | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 1,3-Dichlorobenzene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 1,4-Dichlorobenzene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,4,5-Trichlorophenol | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,4,6-Trichlorophenol | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,4-Dichlorophenol | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,4-Dimethylphenol | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,4-Dinitrophenol | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,4-Dinitrotoluene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2,6-Dinitrotoluene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2-Chloronaphthalene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2-Chlorophenol | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2-Methylnaphthalene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2-Methylphenol (o-cresol) | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2-Nitroaniline | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 2-Nitrophenol | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 3&4-Methylphenol (m&p-cresol) | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 3,3'-Dichlorobenzidine | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 3-Nitroaniline | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4,6-Dinitro-2-methylphenol | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4-Bromophenyl phenyl ether | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4-Chloro-3-methylphenol | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4-Chloroaniline | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4-Chlorophenyl phenyl ether | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4-Nitroaniline | ND | 560 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 4-Nitrophenol | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Acenaphthene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Acenaphthylene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Acetophenone | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Aniline | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Anthracene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benz(a)anthracene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzidine | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzo(a)pyrene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzo(b)fluoranthene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzo(ghi)perylene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzo(k)fluoranthene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzoic acid | ND | 700 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzyl butyl phthalate | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Bis(2-chloroethoxy)methane | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| Bis(2-chloroethyl)ether | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Bis(2-chloroisopropyl)ether | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Bis(2-ethylhexyl)phthalate | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Carbazole | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Chrysene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Dibenz(a,h)anthracene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Dibenzofuran | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Diethyl phthalate | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Dimethylphthalate | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Di-n-butylphthalate | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Di-n-octylphthalate | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Fluoranthene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Fluorene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Hexachlorobenzene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Hexachlorobutadiene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Hexachlorocyclopentadiene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Hexachloroethane | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Indeno(1,2,3-cd)pyrene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Isophorone | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Naphthalene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Nitrobenzene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| N-Nitrosodimethylamine | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| N-Nitrosodi-n-propylamine | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| N-Nitrosodiphenylamine | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Pentachloronitrobenzene | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Pentachlorophenol | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Phenanthrene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Phenol | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Pyrene | ND | 240 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Pyridine | ND | 350 | | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| **QA/QC Surrogates** | | | | | | | | |
| % 2,4,6-Tribromophenol | 76 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % 2-Fluorobiphenyl | 57 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % 2-Fluorophenol | 49 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % Nitrobenzene-d5 | 53 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % Phenol-d5 | 59 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % Terphenyl-d14 | 59 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |

## Additional Semi-Volatile Compounds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,1-Biphenyl | ND | 240 | 110 | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| 1,2,4,5-Tetrachlorobenzene | ND | 240 | 120 | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Atrazine | ND | 140 | 70 | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzaldehyde | ND | 240 | 100 | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Benzo(a)pyrene | ND | 240 | 110 | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| Caprolactam | ND | 140 | 240 | ug/Kg | 1 | 04/30/19 | KCA | SW8270D |
| **QA/QC Surrogates** | | | | | | | | |
| % 2,4,6-Tribromophenol | 76 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % 2-Fluorobiphenyl | 57 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % 2-Fluorophenol | 49 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % Nitrobenzene-d5 | 53 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |

| Parameter | Result | RL/ PQL | LOD/ MDL | Units | Dilution | Date/Time | By | Reference |
|---|---|---|---|---|---|---|---|---|
| % Phenol-d5 | 59 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |
| % Terphenyl-d14 | 59 | | | % | 1 | 04/30/19 | KCA | 30 - 130 % |

1 = This parameter is not certified by the primary accrediting authority (NY NELAC) for this matrix. NY NELAC does not offer certification for all parameters at this time.

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

## Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

Please be advised that the NY 375 soil criteria for chromium are based on hexavalent chromium and trivalent chromium.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

This sample was not collected in accordance with EPA method 5035. NELAC requires the laboratory to qualify the volatile soil data as biased low.

Hexavalent Chromium:
This sample is in a reducing state.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

**Phyllis Shiller, Laboratory Director**
**April 30, 2019**
**Official Report Release To Follow**

# Sample Criteria Exceedances Report

## GCD03374 - TAYLORD



Criteria: NY: 375, 375GWP, 375RRS, 375RS

State: NJ

| SampNo | Acode | Phoenix Analyte | Criteria | Result | RL | Criteria | RL Criteria | Analysis Units |
|---|---|---|---|---|---|---|---|---|

*** No Data to Display ***

Cooler: Yes ☐ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 1.0 Pg 2 of 2

# PHOENIX
*Environmental Laboratories, Inc.*

## NY/NJ CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
**Client Services (860) 645-8726**

**Contact Options:**
☐ Fax:
☐ Phone:
☒ Email: scott@taylordenvironment.com

Customer: Taylord Environment, Inc.
Address: PO Box 613
Wingdale, NY
scott@taylordenvironment.com

Project: Advanced Soil 39 Edgeboro Road
East Brunswick, NJ

Project P.O:

***This section MUST be completed with Bottle Quantities.***

Sampler's Signature

**Client Sample - Information - Identification**

Date:

**Matrix Code:**
**DW**=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water **RW**=Raw Water
**SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil **B**=Bulk **L**=Liquid

Analysis Request

| PHOENIX USE ONLY SAMPLE # | Customer Sample Identification | Sample Matrix | | PART 375 VOC only | PART 375 (NO VOC) | Soil VOA Vials [ 1 ] methanol [ 3 ] H2O | GL Soil container ( 8 ) oz | GL Soil container ( ) oz | 40 ml VOA Vial [ ] As is [ ] HCl | GL Amber 1000ml [ ] As is [ ] H2SO4 | PL As is [ ] 250ml [ ] 500ml [ ] 1000ml | PL H2SO4 [ ] 250ml [ ] 500ml [ ] 1000ml | PL HNO3 250ml | PL NaOH 250ml | Bacteria Bottle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 033714 | SP-2 Grab VOC 1 | s | 4/29/19 | X | | 3 | | | | | | | | | |
| 033715 | SP-2 Grab VOC 2 | s | | x | | 3 | | | | | | | | | |
| 033716 | SP-2 Grab VOC 3 | s | | x | | 3 | | | | | | | | | |
| 033717 | SP-2 Grab VOC 4 | s | | x | | 3 | | | | | | | | | |
| 033718 | SP-2 Grab VOC 5 | s | | x | | 3 | | | | | | | | | |
| 033719 | SP-2 Grab VOC 6 | s | | x | | 3 | | | | | | | | | |
| 033720 | SP-2 Grab VOC 7 | s | | x | | 3 | | | | | | | | | |
| 033721 | SP-2 Comp 1 | s | | | X | | 2 | | | | | | | | |
| 033722 | SP-2 Comp 2 | s | | | X | | 2 | | | | | | | | |
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| | | | | | | | 2 | | | | | | | | |

**Relinquished by:**

**Accepted by:**

| Date: | Time: |
|---|---|
| 4/29/19 | 14:15 |
| 4/29/19 | 14:30 |
| 4/29/19 | 16:00 |

**Comments, Special Requirements or Regulations:**

**Please Report Analytes on the Taylord Environment Watch List**

24 Hour TAT

**Turnaround:**
☑ 1 Day* 2 Days*
☐ 3 Days*
☐ 5 Days
☐ 10 Days
☐ Other
*SURCHARGE APPLIES

**NJ**
☐ Res. Criteria
☐ Non-Res. Criteria
☐ Impact to GW Soil Cleanup Criteria
☐ GW Criteria

**NY**
☑ NY 375 GWP
☑ NY375 Unrestricted Use Soil
☑ NY375 Residential
☑ Restricted/Residential
☐ Commercial
☐ Industrial

**Data Format**
☐ Phoenix Std Report
☐ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☐ NJ Hazsite EDD
☐ NY EZ EDD (ASP)
☐ Other

**Data Package**
☐ NJ Reduced Deliv. *
☐ NY Enhanced (ASP B)*
☐ Other

**State where samples were collected:** NJ

Note: VOC SAMPLES ARE GRAB SAMPLES, COMPOSITE SAMPLES ARE FIVE POINT COMPOSITES SAMPLES

Attachment 2

Certification

State of New Jersey
Department of Labor and Workforce Development

Certificate No. 004592
Expiration Date 3/31/2020

# MINE REGISTRATION CERTIFICATE

ISSUED TO: CLAYTON SAND COMPANY

LOCATION: ROUTE #571
(1143 TOMS RIVER ROAD)
JACKSON, NJ

BLK NO(S): SEE BELOW
LOT NO(S): SEE BELOW
COUNTY: OCEAN

Issued pursuant to the provisions of N.J.S.A. 34:6-98.1 et. seq. Failure to comply with the provisions of the Act, and the Rules promulgated thereunder, shall be good cause for the revocation of this Certificate.

Robert Asaro-Angelo
Commissioner

## THIS CERTIFICATE MUST BE POSTED AT ALL TIMES

| BLK # | LOT # |
|---|---|
| 19001 | 11.02, 2 |
| 19101 | 1,3,6,7,4 |
| 23301 | 1, 2, 3 |

ES-148 (R-1-05)

State of New Jersey
Department of Labor and Workforce Development

Certificate No. 004588
Expiration Date 3/31/2020

# MINE REGISTRATION CERTIFICATE

ISSUED TO: ROSANO TRUCKING INC

LOCATION: SCHOOLHOUSE ROAD
WALL TWSP, NJ

BLK NO(S): 930
LOT NO(S): 1
COUNTY: MONMOUTH

Issued pursuant to the provisions of N.J.S.A. 34:6-98.1 et. seq. Failure to comply with the provisions of the Act, and the Rules promulgated thereunder, shall be good cause for the revocation of this Certificate.

Robert Asaro-Angelo
Commissioner

## THIS CERTIFICATE MUST BE POSTED AT ALL TIMES

ES-148 (R-1-05)

Advanced Soil Technologies
advancedsoiltechnologies.com

990 Cedar Bridge Ave.
Suite B7, Unit 175
Brick, NJ 08723

P: 732-840-1700
F: 732-840-6794

# CLEAN FILL CERTIFICATION

**SOURCE OWNER**
Advanced Soil Technologies
990 Cedar Bridge Ave. Suite B7
Brick, NJ 08723

**SOURCE LOCATION**

| R Sand: | C Sand: | Soil: | Compost: |
|---|---|---|---|
| State Route 33 | Bowman Road | Commerce Drive | Edgeboro Rd |
| Tinton Falls, NJ 07753 | Jackson, NJ 08527 | Somerset, NJ 08873 | East Brunswick, NJ 08816 |
| County of Monmouth | County of Ocean | County of Somerset | County of Middlesex |

**RELATIONSHIP TO FILL**
Manufacturer/Supplier/Hauler

**SUMMARY/HISTORY of S1 BLEND**
The "S1 Blend" is a blend of topsoil from Somerset, NJ, virgin R sand from a quarry in Tinton Falls, NJ, virgin C sand from a quarry in Jackson, NJ and organic leaf compost from the city of East Brunswick, NJ.

The virgin R sand is continuously transported from the quarry in Tinton Falls, NJ to 39 Edgeboro Road, East Brunswick, NJ and is kept in a stockpile which is used as an amendment for some of our engineered soil blends.

The virgin C sand is continuously transported from the quarry in Jackson, NJ to 39 Edgeboro Road, East Brunswick, NJ and is kept in a stockpile which is used as an amendment for some of our engineered soil blends.

The soil was stripped from a jobsite in Somerset NJ and transported to 39 Edgeboro Road, East Brunswick, NJ. Approximately 4,000 cubic yards were transported from January and February of 2017. It is kept in a stockpile separated from other imported materials. As of May 16, 2019, there are approximately 1,500 cubic yards stockpiled at 39 Edgeboro Rd., East Brunswick, NJ.

The organic compost originates from the township of East Brunswick. It is leaves that have picked up by the township, from the residents of East Brunswick and transported to the Middlesex County Utilities Authority's compost facility which is located on Edgeboro Rd. in East Brunswick, NJ. It is there that they place the leaves in windrows where they periodically turn the leaf until it breaks down into organic compost. Once it has broken down, the material is transported to 39 Edgeboro Road in East Brunswick, NJ where Advanced Soil Technologies utilizes it as an amendment to its engineered soils.

**DECLARATION**
I do hereby declare that to the best of my knowledge and belief that the S1 blend is free of any hazardous material.

ADVANCED SOIL TECHNOLOGIES
Name: Patrick Schlagenhaft Title: Vice President
Date: 05/16//2019

Advanced Soil Technologies
advancedsoiltechnologies.com

990 Cedar Bridge Ave.
Suite B7, Unit 175
Brick, NJ 08723

P: 732-840-1700
F: 732-840-6794

# CLEAN FILL CERTIFICATION

## SOURCE OWNER

Advanced Soil Technologies
990 Cedar Bridge Ave. Suite B7
Brick, NJ 08723

## SOURCE LOCATION

R Sand:
State Route 33
Tinton Falls, NJ 07753
County of Monmouth

C Sand:
Bowman Road
Jackson, NJ 08527
County of Ocean

Soil:
Commerce Drive
Somerset, NJ 08873
County of Somerset

## RELATIONSHIP TO FILL

Manufacturer/Supplier/Hauler

## SUMMARY/HISTORY of S2 BLEND

The "S2 Blend" is a blend of topsoil from Somerset, NJ, virgin R sand from a quarry in Tinton Falls, NJ, and virgin C sand from a quarry in Jackson, NJ.

The virgin R sand is continuously transported from the quarry in Tinton Falls, NJ to 39 Edgeboro Road, East Brunswick, NJ and is kept in a stockpile which is used as an amendment for some of our engineered soil blends.

The virgin C sand is continuously transported from the quarry in Jackson, NJ to 39 Edgeboro Road, East Brunswick, NJ and is kept in a stockpile which is used as an amendment for some of our engineered soil blends.

The soil was stripped from a jobsite in Somerset NJ and transported to 39 Edgeboro Road, East Brunswick, NJ. Approximately 4,000 cubic yards were transported from January and February of 2017. It is kept in a stockpile separated from other imported materials. As of May 16, 2019, there are approximately 1,500 cubic yards stockpiled at 39 Edgeboro Rd., East Brunswick, NJ.

## DECLARATION

I do hereby declare that to the best of my knowledge and belief that the S2 blend is free of any hazardous material.

ADVANCED SOIL TECHNOLOGIES
Name: Patrick Schlagenhaft Title: Vice President

Date: 05/16//2019

**Enclosure 2**
**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**
**Site Management Periodic Review Report Notice**
**Institutional and Engineering Controls Certification Form**

**Site Details** **Box 1**

**Site No.** **C241087**

**Site Name Queens West (Hunter's Point) Parcel 8**

Site Address: Center Blvd. and 47th Rd. and 48th Ave. Zip Code: 11101
City/Town: Long Island City
County: Queens
Site Acreage: 0.736

Reporting Period: May 16, 2018 to May 16, 2019

| | YES | NO |
|---|---|---|
| 1. Is the information above correct? | ☒ | ☐ |
| If NO, include handwritten above or on a separate sheet. | | |
| 2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period? | ☐ | ☒ |
| 3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))? | ☐ | ☒ |
| 4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period? | ☒ | ☐ |
| **If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.** | | |
| 5. Is the site currently undergoing development? | ☒ | ☐ |

**Box 2**

| | YES | NO |
|---|---|---|
| 6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial | ☒ | ☐ |
| 7. Are all ICs/ECs in place and functioning as designed? | ☒ | ☐ |

**IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

Signature of Owner, Remedial Party or Designated Representative Date

**Box 2A**

| | YES | NO |
|---|---|---|
| 8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid? | ☐ | ☒ |
| **If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.** | | |
| 9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years) | ☒ | ☐ |
| **If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.** | | |

**SITE NO. C241087**

**Box 3**

**Description of Institutional Controls**

| Parcel | Owner | Institutional Control |
|---|---|---|
| **19-21** | Queens West Development Corporation | Landuse Restriction<br>Monitoring Plan<br>O&M Plan<br><br>Ground Water Use Restriction<br>Soil Management Plan<br>Site Management Plan<br>IC/EC Plan |

(I) Tbe Controlled Property may be used for Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial
as described in 6 NYCRR Part 375-1.8(g)(2)(iv);
(2) All Engineering Controls must he operated and maintained as apecified in the Site Management Plan (SMP);
(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP.
(4) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;
(5) Data and information pertinent to Site Management oftbe Controlled Property must be reported at the frequency and in a manner defined in the SMP;
(6) All future activities on the property that will distUrb remaining contaminated material must be conducted in accordance with the SMP;
(7) Monitoring to assess the performance and effectiveness of the remedy must he perfonoed as defined in the SMP;
(8) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall he performed as defined in the SMP;
(9) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property ownCI'to
assure·compliance with the restrictions identified by this Enviromnental Easement.

**Box 4**

**Description of Engineering Controls**

| Parcel | Engineering Control |
|---|---|
| **19-21** | Cover System<br>Vapor Mitigation |

The Engineering Controls for this Site include a composite cover over the entire site and a vapor barrier plus sub-slab depressurization system for any occupied structures to be built on the site.

**Box 5**

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

| YES | NO |
|---|---|
| ☒ | ☐ |

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

| YES | NO |
|---|---|
| ☒ | ☐ |

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

Signature of Owner, Remedial Party or Designated Representative

Date

**IC CERTIFICATIONS**
**SITE NO. C241087**

**Box 6**

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Stephen Frank (print name) at 690 Delaware Ave, Buffalo, NY (print business address),

am certifying as Remedial Party (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

9/12/19
Date

## IC/EC CERTIFICATIONS

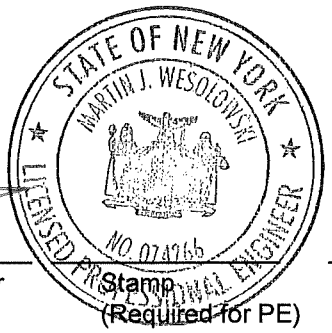
**Box 7**

**Professional Engineer Signature**

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Martin Wesolowski at 690 Delaware Ave, Buffalo, NY,
print name print business address

am certifying as a Professional Engineer for the Remedial Party
(Owner or Remedial Party)




Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

9/12/2019
Date

# Attachment 5
# LiRo Engineers, Inc. - Quarterly Monitoring Report – Second Quarter 2018, August 16, 2018

Included on Attached CD

# Attachment 6
# LiRo Engineers, Inc. - Quarterly Monitoring Report – Third Quarter 2018, November 29, 2018

Included on Attached CD

# Attachment 7
# LiRo Engineers, Inc. - Quarterly Monitoring Report – Fourth Quarter 2018, January 24, 2019

Included on Attached CD

# Attachment 8
# LiRo Engineers, Inc. - Quarterly Monitoring Report – First Quarter 2019, May 7, 2019

Included on Attached CD

# Appendix 1
# Environmental Easement

**New York State Department of Environmental Conservation**
**Office of General Counsel, 14th Floor**
625 Broadway, Albany, New York 12233-1500
**Fax:** (518) 402-9018 or (518) 402-9019
**Website:** www.dec.ny.gov

Joe Martens
Commissioner

August 26, 2011

Clinton N. Daggan Esq.,
Kramer Levin Naftalis & Frankel LLP
1177 Avenue of the Americas
New York, New York 10036

Re: BCP Site No. C241087
Queens West (Hunter's Point) Parcel 8 Site

Dear Attorney Daggan,

Enclosed please find an originally-executed Environmental Easement covering the above – referenced property, which was accepted by the Department. Please have the easement and the enclosed TP 584 & 584.2 form recorded in the Office of the City Register of the City of New York, in the manner prescribed by New York State Property Law Article 9 and Environmental Conservation Law Article 71, Title 36. Once the Environmental Easement is recorded, the local municipality will need to be notified as well as the Notice to any parties identified as having an interest in the property, as set forth in Schedule "B" of the Title Commitment.

Please return a copy of the recorded easement marked by the City Register's Office with the date and location of recording, executed title affidavits, a certified copy of the municipal notice, copy of notice for any interested parties along with proof of service and recording on the same, and the final title insurance policy to my attention. The information from the recorded easement and recorded notices are necessary to process the Certificate of Completion. However, be advised that failure to receive the additional documents requested above within thirty days of the filing of the easement may result in revocation of Certificate of Completion.

If you have any questions, or if you need further assistance with this matter, do not hesitate to contact me.

Very truly yours,

Yvonne Ward
Senior Attorney

Enclosure: Environmental Easement
TP 584.2 & TP 584

**NYC DEPARTMENT OF FINANCE**
**OFFICE OF THE CITY REGISTER**

This page is part of the instrument. The City Register will rely on the information provided by you on this page for purposes of indexing this instrument. The information on this page will control for indexing purposes in the event of any conflict with the rest of the document.

2011090700456001001EA17A

**RECORDING AND ENDORSEMENT COVER PAGE** **PAGE 1 OF 10**

**Document ID: 2011090700456001** Document Date: 08-25-2011 Preparation Date: 09-07-2011
Document Type: EASEMENT
Document Page Count: 9

| **PRESENTER:** | **RETURN TO:** |
|---|---|
| CLINTON DAGGAN<br>KRAMER LEVIN NAFTALIS & FRANKEL LLP<br>1177 AVENUE OF THE AMERICAS<br>NEW YORK, NY 10036<br>212-715-9194<br>cdaggan@kramerlevin.com | CLINTON DAGGAN<br>KRAMER LEVIN NAFTALIS & FRANKEL LLP<br>1177 AVENUE OF THE AMERICAS<br>NEW YORK, NY 10036<br>212-715-9194<br>cdaggan@kramerlevin.com |

**PROPERTY DATA**

| Borough | Block | Lot | Unit | Address |
|---|---|---|---|---|
| QUEENS | 19 | 21 | Partial Lot | N/A 48TH AVENUE |

**Property Type:** NON-RESIDENTIAL VACANT LAND Easement

**CROSS REFERENCE DATA**

CRFN_____ ***or*** Document ID_____ ***or*** _____ Year____ Reel ___ Page ____ ***or*** File Number_____

**PARTIES**

| **GRANTOR/SELLER:** | **GRANTEE/BUYER:** |
|---|---|
| QUEENS WEST DEVELOPMENT CORPORATION<br>633 THIRD AVENUE, 37TH FLOOR<br>NEW YORK, NY 10017 | NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION<br>625 BROADWAY<br>ALBANY, NY 12233 |

**FEES AND TAXES**

| **Mortgage** | | |
|---|---|---|
| Mortgage Amount: | $ | 0.00 |
| Taxable Mortgage Amount: | $ | 0.00 |
| Exemption: | | |
| TAXES: County (Basic): | $ | 0.00 |
| City (Additional): | $ | 0.00 |
| Spec (Additional): | $ | 0.00 |
| TASF: | $ | 0.00 |
| MTA: | $ | 0.00 |
| NYCTA: | $ | 0.00 |
| Additional MRT: | $ | 0.00 |
| TOTAL: | $ | 0.00 |
| Recording Fee: | $ | 82.00 |
| Affidavit Fee: | $ | 0.00 |

| Filing Fee: | | |
|---|---|---|
| | $ | 0.00 |
| NYC Real Property Transfer Tax: | | |
| | $ | 0.00 |
| NYS Real Estate Transfer Tax: | | |
| | $ | 0.00 |

**RECORDED OR FILED IN THE OFFICE OF THE CITY REGISTER OF THE CITY OF NEW YORK**

Recorded/Filed 09-14-2011 15:07
City Register File No.(CRFN):
**2011000326218**

*City Register Official Signature*

## ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

**THIS INDENTURE** made this 25th day of August, 2011, between Owner(s) Queens West Development Corporation, a public benefit corporation of the State of New York, having an office at 633 Third Avenue, 37th Floor, New York, New York 10017 (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233.

**WHEREAS,** the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

**WHEREAS,** the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

**WHEREAS,** the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

**WHEREAS,** Grantor is the owner of real property located at the address of 4-56 47th Road in the Borough and County of Queens and State of New York, known and designated on the tax map of the Office of the City Register of the City of New York as tax map parcel numbers: Block 19 Lot 21 f/k/a Block 19 Lot 19, being the same as that property conveyed to Grantor by Letters Patent dated December 10, 1999 and recorded in the City Register of the City of New York in Reel 590 Page 1561. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.736 +/- acres, and is hereinafter more fully described in the Land Title Survey dated April 1, 2011 prepared by Montrose Surveying Co., LLP, City and Land Surveyors, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

**WHEREAS**, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

**NOW THEREFORE**, in consideration of the mutual covenants contained herein and the terms and conditions of BCA Index No Number: W2-1059-10-03, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

**Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)**

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP.

(4) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(5) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(6) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(7) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP.

(8) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP.

(9) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

**This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.**

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall annually, or such time as NYSDEC may allow, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved b the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5 the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the

Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:
Site Number: C241087
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:
Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

**IN WITNESS WHEREOF,** Grantor has caused this instrument to be signed in its name.

Grantor: Queens West Development Corporation

By: _____

Print Name: Paul Januszewski

Title: President Date: 8/19/11

**Grantor's Acknowledgment**

STATE OF NEW YORK )
) ss:
COUNTY OF NEW YORK )

On the 19TH day of AUGUST, in the year 20 11, before me, the undersigned, personally appeared PAUL JANUSZEWSKI, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New York

SIMON WYNN
Notary Public, State of New York
No. 02WY4792002
Qualified in New York County
Commission Expires Aug. 31, 2013

SEAL

**THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK**, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner.

By: _____
Dale A. Desnoyers, Director
Division of Environmental Remediation

**Grantee's Acknowledgment**

STATE OF NEW YORK )
) ss:
COUNTY OF ALBANY )

On the 25th day of August, in the year 2011, before me, the undersigned, personally appeared Dale A. Desnoyers, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

**David J. Chiusano**
**Notary Public, State of New York**
**No. 01CH5032146**
**Qualified in Schenectady County**
**Commission Expires August 22, 2014**

SEAL

## SCHEDULE "A" PROPERTY DESCRIPTION

Address: 4-56 47th Road, Queens, NY
Tax Map: Tax Lot 9021 Block 17 Lot 21

ALL that certain lot, piece or parcel of land, situate, lying and being in the Borough and County of Queens, City and State of New York, bounded and described as follows:

BEGINNING at the corner formed by the intersection of the southerly side of 47th Road (formerly Seventh Street) with the westerly side of Center Boulevard, as said boulevard is shown on the City of New York, Borough of Queens, Office of the President Topographical Bureau Map No. 4876 showing a change in the street system, said point also being distant 458.60 feet westerly along the southerly side of said 47th Road from the corner formed by the intersection of the said southerly side of said 47th Road with the westerly side of 5th Street (formerly West Avenue);

THENCE along the westerly side of said Center Boulevard south 6 degrees, 26 minutes, 24.2 seconds west, 198.15 feet;

THENCE still along the westerly side of said Center Boulevard along the arc of a curve bearing to the right having a central angle of 0 degrees, 36 minutes, 12.5 seconds and a radius of 1550 feet, a distance of 16.33 feet;

THENCE south 75 degrees, 17 minutes, 05 seconds west, 121.64 feet to the easterly line of the Commerce Grant to Cyrus M. Warren, 4/30/1890; (Book 47 of Patents Page 43);

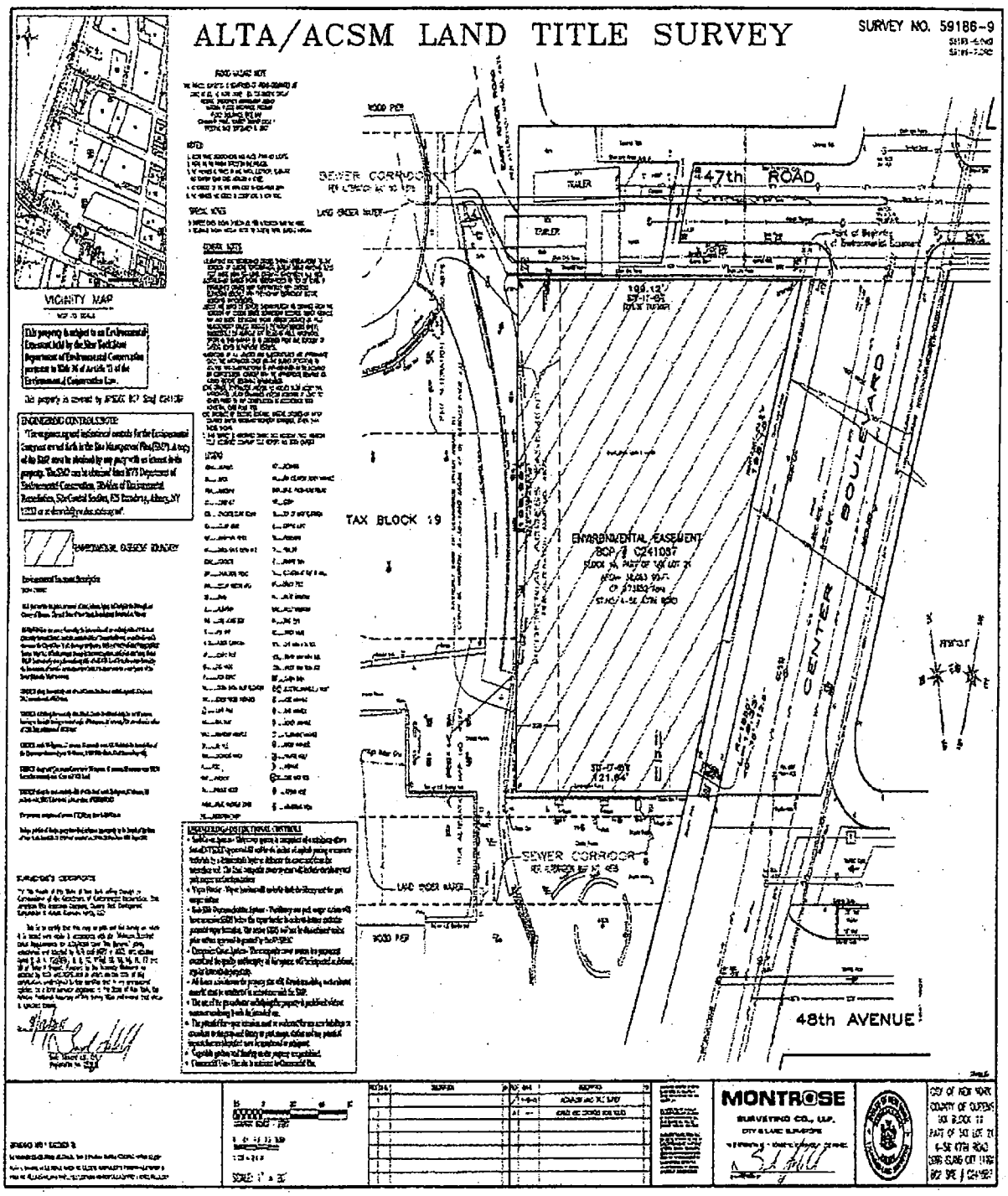
THENCE along said Commerce Grant north 14 degrees, 42 minutes, 55 seconds west 199.99 feet to the southerly side of the said 47th Road;

THENCE along the said southerly side of 47th Road north 75 degrees, 17 minutes, 05 seconds east, 199.12 feet to the point or place of BEGINNING.

The premises comprises of an area of 32,083 sq. ft. or 0.73652 acre.

Being a portion of that property described in letters patent made by the People of the State of New York dated 12-10-1999 and recorded on 10-04-2000 as Reel 5690 Page 1561.

## SURVEY


ALTA/ACSM LAND TITLE SURVEY
SURVEY NO. 59186-9
VICINITY MAP
47th ROAD
48th AVENUE
CENTER BOULEVARD
TAX BLOCK 19
ENVIRONMENTAL EASEMENT
BCP # C241087
SEWER CORRIDOR
MONTROSE
SURVEYING CO., LLP.

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

**Division of Environmental Remediation, Region 2**
47-40 21st Street, Long Island City, NY 11101
P: (718) 482-4995
www.dec.ny.gov

March 23, 2020

Oluwatobi Jaiyesimi
Queens West Development Corporation
633 Third Ave
New York, NY 10016

Re: Site Management (SM) Periodic Review Report (PRR) Response Letter
Queens West (Hunter's Point) Parcel 8, Long Island City
Queens County, Site No.: C241087

Dear Ms. Jaiyesimi (as the Certifying Party):

The Department has reviewed your Periodic Review Report (PRR) and IC/EC Certification for following period: May 16, 2018 to December 6, 2019.

The Department hereby accepts the PRR and associated Certification. The frequency of Periodic Reviews for this site is 1 year, and your next PRR is due on January 5, 2021. You will receive a reminder letter and updated certification form 45-days prior to the due date. Regardless of receipt or not, of the reminder notice, the next PRR including the signed certification form, is still due on the date specified above.

The Site Management Plan must be updated with the as-built drawings as provided in the approved PRR. Submit appropriate text revisions in redline/strikeout mode for review and approval within the next 60 days.

If you have any questions, or need additional forms, please contact me at 718-482-4891 or e-mail: sondra.martinkat@dec.ny.gov.

Sincerely,

*SMartinkat*

Sondra Martinkat
Project Manager

ec: Jane O'Connell – NYSDEC
Scarlett McLaughlin, Steve Berninger – NYSDOH
Tobi Jaiyesimi, Simon Wynn, Esq. – Queens West Development Corporation
Michael Simpson, Angel Malik – Avalon Bay Communities
Deepthi Mathew – NYCDDC
Justin Carroll – Queens Public Library

Stephen Franks – LiRo
Steve Muller – J.C. Broderick & Associates Inc.
Steve Panter – FLS Inc.

# ATTACHMENT 4:
# 4TH QUARTER 2019
# STATUS REPORT


**J.C. Broderick & Associates, Inc.**
***Environmental Consulting & Testing***
**1775 Expressway Drive, North**
**Hauppauge, New York 11788**

# 2019 4TH QUARTER STATUS REPORT

# QUEENS WEST HUNTERS POINT COMMUNITY LIBRARY
# 47-40 CENTER BOULEVARD
# LONG ISLAND CITY, NEW YORK 11109

# NYSDEC SITE ID # C241087

## PREPARED FOR:
## NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

## JCB # 19-44493
## JANUARY 2020

**J.C. BRODERICK & ASSOCIATES, INC.**
**Environmental Consulting & Testing**

**1775 Expressway Drive North**
**Hauppauge, New York 11788**
**631-584-5492 Fax: 631-584-3395**

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## Introduction

On behalf of the Queens Public Library, J.C. Broderick and Associates, Inc. (JCB) conducted the fourth quarter 2019 groundwater sampling event in December 2019 and prepared this Quarterly Monitoring Report (QMR) for the new Queens West Hunters Point Community Library located at 47-40 Center Boulevard, (Parcel 8 (Block 19, portion of Lot 21), on the west side of Center Boulevard between 47th Road to the north and 48th Avenue to the south, in the neighborhood of Long Island City, County and Borough of Queens, City and State of New York (hereinafter referred to as the Site; Figure 1). The parcel is approximately 0.73 acres and currently occupied a Public Library facility. According to the United States Geological Survey (USGS) *Brooklyn, New York, 1995* 7.5 Minute Series Topographical Map, the Site is situated at an approximate elevation of 15 feet (ft) above mean sea level. The location of the Site is shown on the Site Location Map (Figure No. 1). The monitoring well locations and other site features are shown on the Monitoring Well Locations Map (Figure No. 2). Based on the previous site investigations, groundwater flow direction is generally toward the west.

The Site is in the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) (NYSDEC Site No. C241087) and redevelopment of the Site was conducted under the requirements of the Site Management Plan (SMP) dated December 2011 and Revision #1 dated November 2014. The annual groundwater sampling and this QMR were performed in accordance with the SMP. The SMP calls for quarterly groundwater sampling in order to evaluate current groundwater conditions and to evaluate the overall effectiveness of remediation.

Between October 25, 2010 and March 30, 2011, Fleming Lee-Shue (FLS) of New York, New York implemented the treatment remedy for Parcel 8 which included in-situ chemical injection using sodium persulfate, sodium hydroxide, and a plant-based surfactant under the NYSDEC BCP. Sodium persulfate was the oxidant utilized and was activated by the addition of sodium hydroxide to raise the pH. The plant-based surfactant, VeruSOL®, was added to aid in the dissolution of the coal tar to make it available for chemical oxidation. A total of 334,000 pounds of sodium persulfate, 136,300 pounds of sodium hydroxide and 65,000 pounds of surfactant were injected over the five-month treatment period. The bulk of the treatment targeted the zone of 10 to 22 feet below surface grade (bsg). Treatment was completed using the RemMetrik® process, which utilized subsurface pressure waves generated by Wavefront Technology Solutions, Inc. of Edmonton, Alberta, Canada, Primawave™ process. Previous estimates indicated that 47,000 pounds of coal tar contamination were slated for treatment. LiRo Engineers, Inc. (LiRo) was tasked by the DDC to conduct quarterly groundwater sampling in June 2015 continuing through the Third Quarter 2019.

The following on-site groundwater monitoring wells were decommissioned in June 2015 and the first quarter 2016 by LiRo on behalf of the New York City Department of Design and Construction (DDC), due to on-going construction at the Site:

- MW-7R, MW-11D, MW-12D, MW-13S, MW-14S, MW-15, MW-17S, MW-18D, MW-19D, MW-20, MW-21S, MW-22D, MW-23S, and Geothermal Well (no ID).

LiRo submitted Monitoring Well Decommissioning memorandums dated July 1, 2015, March 18, 2016 and December 5, 2016 to document the well closures.

## Section No. 1: Monitoring Well Gauging

JCB conducted gauged the monitoring well network on December 20, 2019. The well locations requiring gauging as per the NYSDEC in December 2019 were MW-26S, MW-26D, MW-27S, and MW-27D, which are located in Peninsula Park and Gantry Plaza State Park. During the gauging event, each monitoring well was gauged for depth to groundwater and for the presence of light non-aqueous phase liquid (LNAPL) and dense non-aqueous phase liquid (DNAPL) utilizing a Solinst® Model 122 Product/Water Interface Meter capable of measuring to the nearest 0.01 foot. A DNAPL layer (inferred to be coal tar based on Site history) was observed at monitoring well MW-27D. The exact product thicknesses could not be measured due to a mixing zone below the product. In addition, MW-26D could not be accessed; therefore, no gauging data was obtained.

The monitoring well gauging results are summarized as follows:

| | |
|---|---|
| Gauging Date: | 12/20/2019 |
| Number of Wells Gauged: | 3 |
| Wells Not Gauged: | MW-26D (No Access) |
| Gauging Frequency: | Quarterly |
| Wells with DNAPL: | MW-27D |
| Depth to Groundwater (ft): | 5.79’ to 8.21’ |
| Interpreted Groundwater Flow Direction: | Westerly |

## Section No. 2: Monitoring Well Sampling

The monitoring well network was sampled on December 20, 2019. The well locations requiring gauging as per the NYSDEC in December 2019 were MW-26S, MW-26D, MW-27S, and MW-27D, which are located in Peninsula Park and Gantry Plaza State Park; however, in accordance with the SMP, due to the presence of a DNAPL layer observed within monitoring well MW-27D, it was not sampled. In addition, MW-26D could not be accessed; therefore, it was not sampled.

Prior to sampling, the volume of water within each monitoring well was calculated using the well diameter and water column height. Each well was purged utilizing a low-flow, Masterflex E/S Portable Peristaltic Sampler, to ensure minimal generation of suspended solids, minimize the volatilization of contaminants in the groundwater, acquire a more representative localized groundwater sample from the contaminated plume, and minimize the volume of groundwater purged. Groundwater chemistry was monitored utilizing the flow-through chamber of an YSI 556 Multi-Probe handheld groundwater chemistry meter and recorded every five (5) minutes until the groundwater chemistry stabilized.

Monitored parameters consisted of temperature, pH, dissolved oxygen (DO), Specific Conductivity, oxidation reduction potential (ORP) and turbidity. The monitoring well was considered stabilized and ready for sampling when the readings remain in the following ranges: ±10% for Temperature; ±0.1 for pH; ±10% for Dissolved Oxygen; ±3% for Specific Conductance (Conductivity); ±10 mv for Redox Potential (ORP). All samples were collected utilizing new and dedicated sampling equipment, were placed into laboratory-supplied containers, assigned individual identification numbers and then placed into an appropriately conditioned cooler. Chain of custody documents were prepared, and the samples were then delivered to York Analytical Laboratories, Inc. (York) of Stratford, Connecticut for analysis. All groundwater samples collected were analyzed for the following parameters:

- Target Compound List (TCL) volatile organic compounds (VOCs), United States Environmental Protection Agency (USEPA) Method 8260C;
- TCL semi-volatile organic compounds (SVOCs), USEPA Method 8270D;
- Total Petroleum Hydrocarbon Diesel Range Organics/Gasoline Range Organics (TPHC DRO/GRO), USEPA Method 8015C;
- Total Iron, USEPA Method 6010;
- Alkalinity, USEPA Method 310.1;
- Sulfate, USEPA Method 300.

Quality assurance/quality control (QA/QC) samples were collected during sampling and included one (1) field blank and one (1) trip blank.

## Section No. 3: Laboratory Analysis Summary

Groundwater analytical results for the fourth quarter 2019 samples are summarized in Table No. 2. To be consistent with previous reporting, the trends for benzene and naphthalene are discussed and summarized below.

**Table No. 1:**
**Summary of Benzene and Naphthalene Detections September 2017 – December 2019**

| Well ID | Compound | Sample Date | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 09/2017 | 12/2017 | 03/2018 | 06/2018 | 09/2018 | 12/2018 | 03/2019 | 06/2019 | 12/2019 |
| MW-24S | Benzene | NS | NS | 6.5 | NS | NS | NS | 0.83 | NS | NS |
| | Naphthalene | NS | NS | 180 | NS | NS | NS | ND | NS | NS |
| MW-24D | Benzene | NS | NS | 30.9 | NS | NS | NS | 10.5 | NS | NS |
| | Naphthalene | NS | NS | 370 | NS | NS | NS | ND | NS | NS |
| MW-25S | Benzene | NS | NS | 12.2 | NS | NS | NS | 0.49 | NS | NS |
| | Naphthalene | NS | NS | ND | NS | NS | NS | ND | NS | NS |
| MW-25D | Benzene | NS | NS | ND | NS | NS | NS | ND | NS | NS |
| | Naphthalene | NS | NS | ND | NS | NS | NS | ND | NS | NS |
| MW-26S | Benzene | 3,900 | 3,200 | 3,000 | 4,100 | 3,200 | 4,000 | 3,300 | 4,100 | 3,400 |
| | Naphthalene | 3,500 | 250 | 6,100 | 5,600 | 5,000 | 4,300 | 1,500 | 10,900 | 9,820 |
| MW-26D | Benzene | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| | Naphthalene | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| MW-27S | Benzene | 700 | 360 | 640 | 810 | 1,200 | 150 | 380 | 490 | 52.0 |
| | Naphthalene | 75.1 | 34.2 | 240 | 94 | 71.9 | 35.4 | 98.7 | 57.9 | 3.95 |
| MW-27D | Benzene | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| | Naphthalene | NS | NS | NS | NS | NS | NS | NS | NS | NS |
| MW-30S | Benzene | NS | NS | NS | NS | ND | NS | ND | NS | NS |
| | Naphthalene | NS | NS | NS | NS | ND | NS | ND | NS | NS |
| MW-30D | Benzene | 89.5 | NS | 440 | NS | 72.8 | NS | 850 | NS | NS |
| | Naphthalene | 7,800 | NS | 3,900 | NS | 7,500 | NS | 9,100 | NS | NS |

**Notes**:
Reported Concentrations in µg/L = parts per billion
NS = Not Sampled
ND = Not Detected Above Laboratory Minimum Detection Limit

The December 2019 benzene data reported decreased concentrations (compared to the most recent previous sample for each well) at wells MW-26S and MW-27S. The December 2019 benzene concentration at MW-26S is generally consistent with previous quarterly/semiannual sampling result

trends. The December 2019 benzene concentration at MW-27S is significantly lower than previous quarterly/semiannual sampling results.

The December 2019 naphthalene data reported decreased concentrations (compared to the most recent previous sample for each well) at wells MW-26S and MW-27S. The December 2019 naphthalene concentration at MW-26S slightly decreased from the highest level reported in the past two years. The December 2019 naphthalene concentration at MW-27S is significantly lower than previous quarterly/semiannual sampling results.

TCL VOCs, TCL SVOCs, TPHC DRO/GRO, Total iron concentrations and water quality indicator parameters including sulfate and alkalinity are reported in Table No. 2 below.

The laboratory analytical results from the groundwater samples were reviewed and compared to Table No. 1 of the *Ambient Water Quality Standards and Guidance Values of the New York State Department of Environmental Conservation, Division of Water, Technical and Operational Guidance Series (TOGS) (1.1.1)* dated June 1998. The concentrations for parameters detected are shown on Figure No. 3 and Table No. 2 below.

**Table No. 2:**
**Summary of Compounds Detected in Groundwater Samples**

| Compound | AWQSGV | MW-26S | MW-27S | Field Blank | Trip Blank |
|---|---|---|---|---|---|
| | | 12/20/2019 | 12/20/2019 | 12/20/2019 | 12/20/2019 |
| **TCL Volatile Organics List** | **µg/L** | **µg/L** | **µg/L** | **µg/L** | **µg/L** |
| 1,2,4-Trimethylbenzene | 5 | **280** | ND | ND | ND |
| 1,3,5-Trimethylbenzene | 5 | **96** | ND | ND | ND |
| Acetone | 50 | **200** | ND | ND | 3.7 |
| Benzene | 0.7 | **3,400** | **52.0** | ND | ND |
| Ethylbenzene | 5 | **720** | **10.0** | ND | ND |
| Isopropylbenzene | 5 | **40** | 2.5 | ND | ND |
| Methylene Chloride | 5 | **200** | ND | 5.0 | ND |
| o-Xylene | 5 | **840** | ND | ND | ND |
| p- & m- Xylenes | 5 | **1,200** | ND | ND | 0.53 |
| Toluene | 5 | **510** | ND | ND | ND |
| Xylenes, Total | 10 | **2,000** | ND | ND | ND |
| **TCL Semi-Volatile Organics List** | **µg/L** | **µg/L** | **µg/L** | **µg/L** | **µg/L** |
| 1,1 Biphenyl | N/A | 78.2 | ND | --- | --- |
| 2,4-Dimethylphenol | 50 | **376** | ND | --- | --- |
| 2-Methylnaphthalene | N/A | 410 | ND | --- | --- |
| 2-Methylphenol | 1 | **61.7** | ND | --- | --- |
| 3&4-Methylphenols | N/A | 172 | ND | --- | --- |
| Acenaphthene | 20 | **196** | 7.51 | --- | --- |
| Acenaphthylene | N/A | 12.8 | 0.67 | --- | --- |
| Aniline | 5 | **39.1** | ND | --- | --- |
| Anthracene | 50 | 16.6 | 1.37 | --- | --- |
| Benzo [a] Anthracene | 0.002 | ND | **0.46** | --- | --- |
| Benzo [a] Pyrene | 0.002 | ND | **0.29** | --- | --- |
| Benzo [b] Fluoranthene | 0.002 | ND | **0.23** | --- | --- |
| Benzo [g,h,i] Perylene | N/A | ND | 0.13 | --- | --- |
| Benzo [k] Fluoranthene | 0.002 | ND | **0.20** | --- | --- |

**Table No. 2:**
**Summary of Compounds Detected in Groundwater Samples**

| Compound | AWQSGV | MW-26S | MW-27S | Field Blank | Trip Blank |
|---|---|---|---|---|---|
| | | 12/20/2019 | 12/20/2019 | 12/20/2019 | 12/20/2019 |
| Carbazole | N/A | 116 | 4.47 | --- | --- |
| Chrysene | 0.002 | ND | **0.41** | --- | --- |
| Dibenzo [a,h] Anthracene | N/A | ND | 0.051 | --- | --- |
| Dibenzofuran | N/A | 149 | 4.33 | --- | --- |
| Fluoranthene | 50 | 14.1 | 2.15 | --- | --- |
| Fluorene | 50 | **110** | 3.64 | --- | --- |
| Indeno [1,2,3-cd] Pyrene | 0.002 | ND | **0.11** | --- | --- |
| Naphthalene | 10 | **9,820** | 3.95 | --- | --- |
| Phenanthrene | 50 | **135** | 4.37 | --- | --- |
| Phenol | 1 | **27.2** | ND | --- | --- |
| Pyrene | 50 | 8.36 | 1.78 | --- | --- |
| **Total Petroleum Hydrocarbons** | **µg/L** | **µg/L** | **µg/L** | **µg/L** | **µg/L** |
| Gasoline Range Organics (GRO) | N/A | 26,700 | ND | --- | --- |
| Diesel Range Organics (DRO) | N/A | 23,700 | 532 | --- | --- |
| **Additional Parameters** | **µg/L** | **µg/L** | **µg/L** | **µg/L** | **µg/L** |
| Total Iron | 300 | **3,950** | **921** | --- | --- |
| Alkalinity, total | N/A | 1,800,000 | 490,000 | --- | --- |
| Sulfate, as $SO_4$ | 250,000 | **359,000** | 183,000 | --- | --- |

**Notes:**
µg/L = parts per billion
--- = Analysis method not run on sample
ND = Not Detected above the laboratory minimum detection limit
N/A = Standard or Guidance Value Not Established by NYSDEC at Time of Report
AWQSGV = Abient Water Quality Standard Guidance Value = Table No. 1 of the NYSDEC TOGS 1.1.1
**BOLD Indicates Result Above Guidance Value**

The laboratory analysis results from the groundwater sample submitted from MW-26S, did reveal elevated concentrations of eleven (11) VOCs, eight (8) SVOCs, Total Iron and Sulfate exceeding the above referenced guidance values for the analytical methods conducted.

The laboratory analysis results from the groundwater sample submitted from MW-27S, did reveal elevated concentrations of two (2) VOCs, six (6) SVOCs and Total Iron exceeding the above referenced guidance values for the analytical methods conducted.

## Section No. 4: Quality Assurance and Quality Control (QA/QC) Procedures

In order to prevent cross-contamination between sampling locations, all re-usable sampling equipment which came into contact with sample materials was decontaminated prior to each use. Equipment used for sample collection was wiped clean, washed in a solution of Alconox and thoroughly rinsed with potable water. New and dedicated polyethylene tubing was used for collection of each groundwater sample. All sampling personnel wore disposable latex, nylon, or nitrile gloves during sampling events. At a minimum, gloves were changed between boring locations and before each laboratory sample was collected. All collected samples were placed into an appropriately conditioned cooler for storage and transported to the laboratory. Samples were maintained between 0°C and 8°C.

## Section No. 5: Data Validation

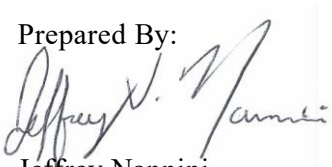
Data validation was performed Premier Environmental Services as required by the NYSDEC-approved Remedial Action Work Plan (RAWP), dated September 16, 2010. The Data Usability Summary Report (DUSR), dated March 2020, is provided in Appendix 2. Based on the data validation, the data are acceptable for use with the "J" qualification (which indicates an estimated value) as noted in the DUSR.

## Section No. 6: Conclusions

In December 2019, JCB completed the fourth quarter 2019 groundwater sampling activities for the new Queens West Hunters Point Community Library located at 47-40 Center Boulevard, Long Island City, New York. During this sampling event, four monitoring wells, MW-26S, MW-26D, MW-27S and MW-27D were scheduled for gauging, sampling, and analysis. Prior to purging activities, DNAPL was detected in deep monitoring well MW-27D, also deep monitoring well MW-26D could not be accessed at the time of sampling as a result, these two (2) monitoring wells were not sampled. Analytical results indicate decreased concentrations for benzene at MW-26S and MW-27S compared to the second quarter 2019 sampling event. In addition, analytical results for naphthalene indicate a decreased concentration at MW-26S and MW-27S compared to the second quarter 2019 sampling event.

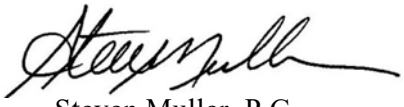
The DNAPL observed at MW-26D and MW-27D is potentially a result of residual coal tar in the deeper portion of the formation or migration from the Parcel 8 treatment area. DNAPL has consistently been observed at MW-26D and MW-27D since quarterly sampling in June 2015.

Prepared By:



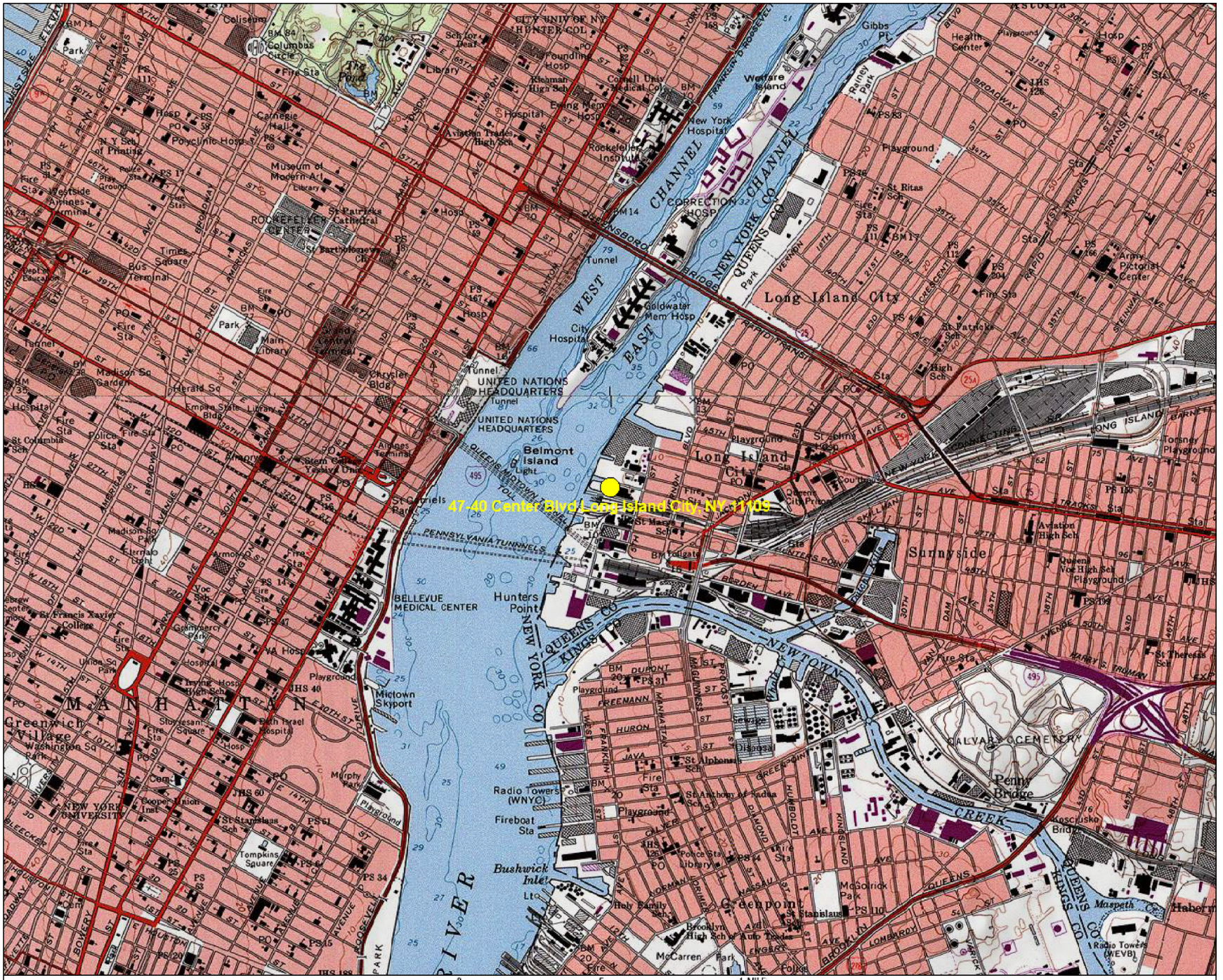
Jeffrey Nannini
Environmental Scientist

Reviewed By:



Steven Muller, P.G.
Project Manager

# Appendix 1
# Figures

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Notes:

Queens Public Library at Hunters Point
47-40 Center Boulevard
Long Island City, NY 11109

NYSDEC Site ID:
C241087

Drawing Title

Figure No. 1

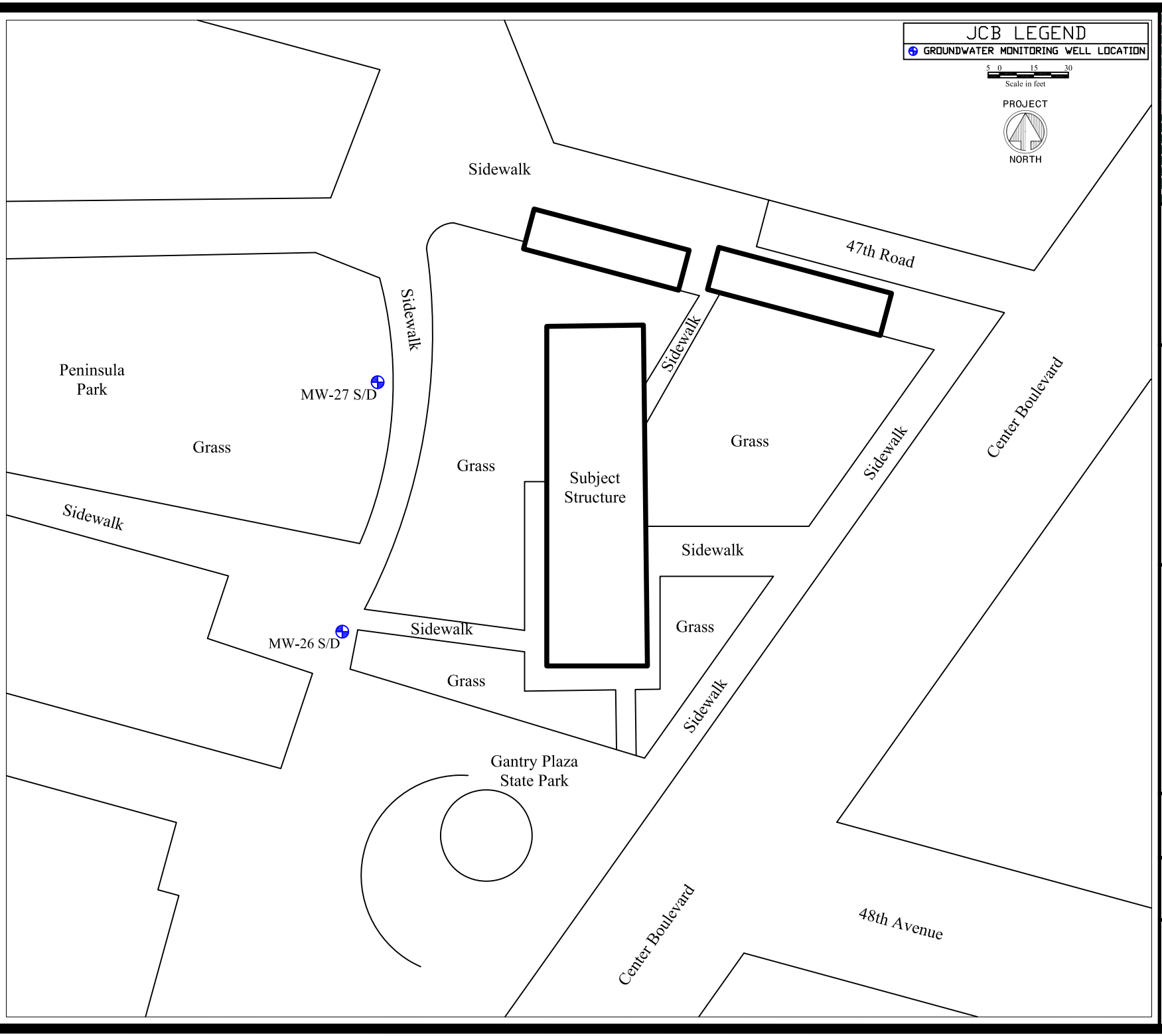
Site Location Map

| Scale | Project No. | Date |
|---|---|---|
| As Noted | 19-44493 | 12-20-19 |

| Drawn By | Checked By | Page No. |
|---|---|---|
| J.V.N. | S.W.M. | 1 of 3 |

Drawing No.

1

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Long Island City, NY 11109

NYSDEC Site ID:
C241087

Drawing Title

Figure No. 2

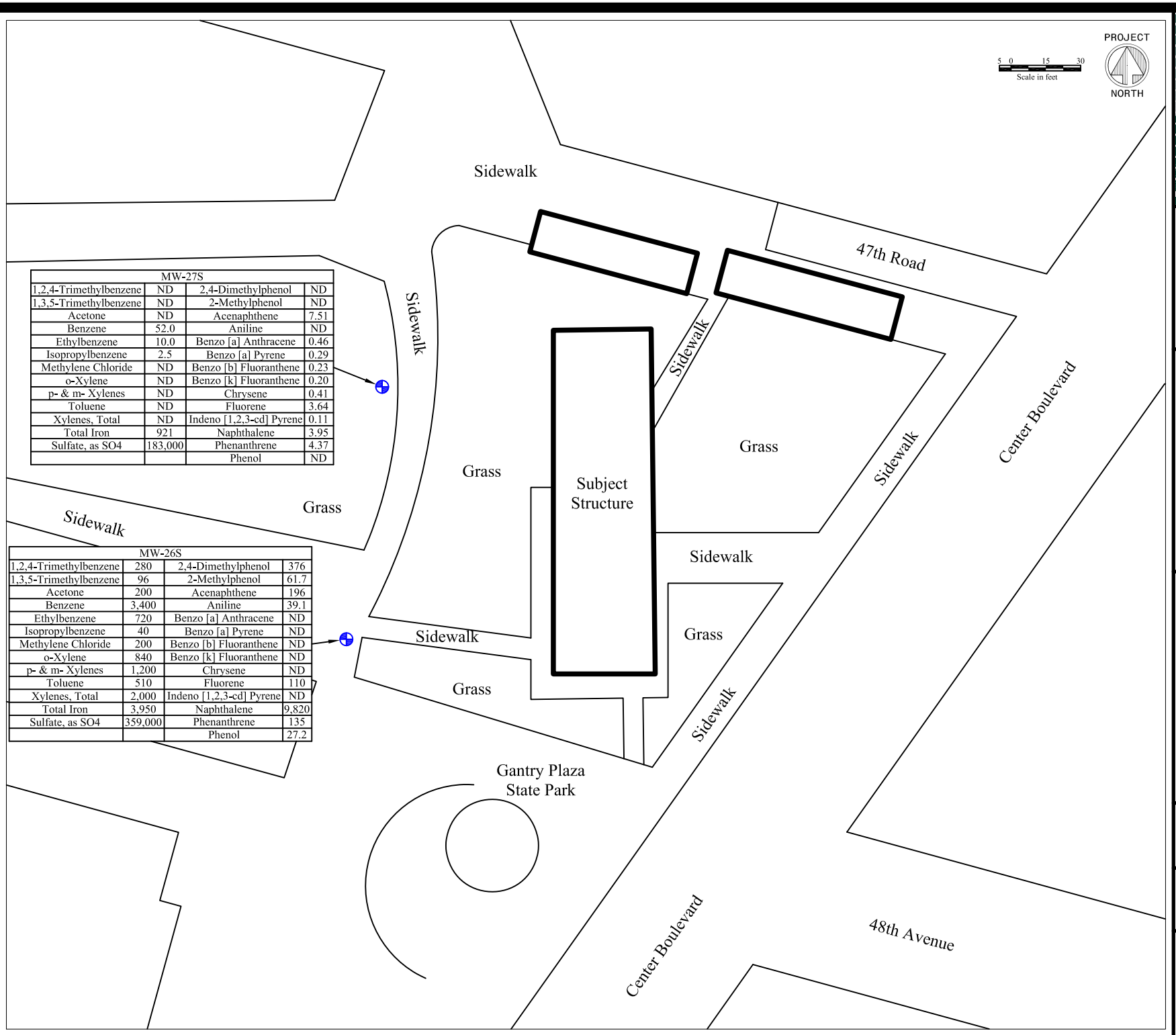
Monitoring Well Locations Map

| Scale | Project No. | Date |
|---|---|---|
| As Noted | 19-44493 | 12-20-19 |

| Drawn By | Checked By | Page No. |
|---|---|---|
| J.V.N. | S.W.M. | 2 of 3 |

Drawing No.

2




| MW-27S | | | |
|---|---|---|---|
| 1,2,4-Trimethylbenzene | ND | 2,4-Dimethylphenol | ND |
| 1,3,5-Trimethylbenzene | ND | 2-Methylphenol | ND |
| Acetone | ND | Acenaphthene | 7.51 |
| Benzene | 52.0 | Aniline | ND |
| Ethylbenzene | 10.0 | Benzo [a] Anthracene | 0.46 |
| Isopropylbenzene | 2.5 | Benzo [a] Pyrene | 0.29 |
| Methylene Chloride | ND | Benzo [b] Fluoranthene | 0.23 |
| o-Xylene | ND | Benzo [k] Fluoranthene | 0.20 |
| p- & m- Xylenes | ND | Chrysene | 0.41 |
| Toluene | ND | Fluorene | 3.64 |
| Xylenes, Total | ND | Indeno [1,2,3-cd] Pyrene | 0.11 |
| Total Iron | 921 | Naphthalene | 3.95 |
| Sulfate, as SO4 | 183,000 | Phenanthrene | 4.37 |
| | | Phenol | ND |

| MW-26S | | | |
|---|---|---|---|
| 1,2,4-Trimethylbenzene | 280 | 2,4-Dimethylphenol | 376 |
| 1,3,5-Trimethylbenzene | 96 | 2-Methylphenol | 61.7 |
| Acetone | 200 | Acenaphthene | 196 |
| Benzene | 3,400 | Aniline | 39.1 |
| Ethylbenzene | 720 | Benzo [a] Anthracene | ND |
| Isopropylbenzene | 40 | Benzo [a] Pyrene | ND |
| Methylene Chloride | 200 | Benzo [b] Fluoranthene | ND |
| o-Xylene | 840 | Benzo [k] Fluoranthene | ND |
| p- & m- Xylenes | 1,200 | Chrysene | ND |
| Toluene | 510 | Fluorene | 110 |
| Xylenes, Total | 2,000 | Indeno [1,2,3-cd] Pyrene | ND |
| Total Iron | 3,950 | Naphthalene | 9,820 |
| Sulfate, as SO4 | 359,000 | Phenanthrene | 135 |
| | | Phenol | 27.2 |

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Notes:

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NYSDEC Site ID:
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Drawing Title

# Figure No. 3

## Analytical Results Map

| Scale | Project No. | Date |
|---|---|---|
| As Noted | 19-44493 | 12-20-19 |

| Drawn By | Checked By | Page No. |
|---|---|---|
| J.V.N. | S.W.M. | 3 of 3 |

Drawing No.

3

# Appendix 2
# Data Usability Summary Report

# DATA USABILITY SUMMARY REPORT (DUSR)

## QUEENS LIBRARY SITE

## ORGANIC AND INORGANIC ANALYSES IN GROUNDWATER SAMPLES

## YORK ANALYTICAL LABORATORIES STRATFORD, CT

## SDG NUMBER: 19L0859

March 2020

Prepared for
J.C. Broderick and Associates, Inc
Happauge, New York

Prepared by
Premier Environmental Services
2815 Covered Bridge Road
Merrick, New York 11566
(516)223-9761

# Data Usability Summary Report

| | |
|---|---|
| **DATA VALIDATION FOR:** | **Volatile Organic Analyses (EPA Methods: 8260C)** |
| **SITE:** | **Queens Library** |
| **CONTRACT LAB:** | **York Analytical Laboratories, Inc. Stratford, CT** |
| **PROJECT NO.:** | **19L0859** |
| **REVIEWER:** | **Renee Cohen** |
| **DATE REVIEW COMPLETED:** | **February 2020** |
| **MATRIX:** | **Groundwater** |

**The data validation was performed according to the guidelines in the USEPA National Functional Guidelines for Organic Data Review. In addition, method and QC criteria specified in the NYSDEC ASP documents were cited. All data are considered valid and acceptable except those analytes which have been deemed unusable "R" (unreliable). Due to various QC problems, some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.**

**Table 1 of this report includes a cross reference between the field sample ID and laboratory sample ID used to perform data validation. Definitions of the data qualifiers that may be used in this report are in Appendix A of this report. Qualified data result pages are located in Appendix B of this report. A copy of the Chain of Custody (COC) document is in Appendix C of this report.**

**This sample set included two (2) groundwater/aqueous samples, one (1) Trip Blank sample and one (1) Field Blank sample. Based on the COC documents that accompanied the samples to the laboratory the samples were collected December 20, 2019 and received at York Analytical Laboratories located in Stratford, CT on December 23, 2019 in good condition. The samples in this data set were analyzed for the parameter listed on the COC document that accompanied the sample samples to the laboratory. This report is the review of these Volatile Organic Compound (VOCs) analyses.**

## ORGANIC DATA ASSESSMENT

### 1. OVERVIEW:

Samples associated with this data set were analyzed for Volatile Organic Analytes (VOA) as marked on the COC documentation that accompanied the sample set to the laboratory. All analyses were performed in accordance with USEPA Test Methods for the Evaluation of Solid Waste (SW846) as well as the NYSDEC ASP methodologies. Data validation will utilize the validation guidelines in listed above, however, QA/QC requirements of the NYS DEC ASP will supersede CLP requirements in terms of calibration (where applicable) and holding time. York Analytical Laboratories generated a stand-alone report for each fraction in compliance with the NYS DEC ASP Category B deliverables. A summary of the applicable QC will be discussed at each section of the report.

Laboratory report 19L0859 consists of two (2) monitoring well samples, one (1) Trip Blank sample and one (1) Field Blank sample that were analyzed by the method listed on the Chain of Custody documents that accompanied the samples to the laboratory. The Chain of Custody document listed the field sample ID's that are summarized in Table 1 of this report.

A copy of the COC documents associated with this data set is located in Appendix C of this report.

### 2. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. The NYS DEC ASP criteria specifies holding times for solid and soil samples. These holding times are based on Validated Time of Sample Receipt (VTSR). The holding times cited in the NY ASP were reviewed. EPA SW846 methods cite holding times based on collection date. The technical holding time for properly preserved aqueous and non-aqueous Volatile Organic samples is fourteen (14) days.

Samples reported in laboratory report 19L0859 were collected December 20, 2019 per the COC documents that accompanied the samples to the laboratory. The samples were received at the laboratory on December 23, 2019. Initial sample analyses, applicable reanalysis and QC sample analyses associated with this data set were analyzed in two (2) sample batches. Sample analyses were completed on December 31, 2019. The samples reported in this data set were analyzed within the method holding time.

### 3. SURROGATES:

**Samples to be analyzed for Volatile Organic Analytes (VOA) are fortified with three (3) method recommended surrogate compounds. These include 1,2-Dichloroethane-d4 (69-130%), Toluene-d8 (81-117%) and 4-Bromofluorobenzene (79-122%). The surrogate compounds were added prior to sample analysis to evaluate the overall laboratory performance and the efficiency of the analytical technique.**

The laboratory reported in-house recovery limits in terms of percent recovery (%) for each surrogate compound. The percent recovery of each surrogate compound met QC criteria in each of the field samples and QC samples reported in this data set.

## ORGANIC DATA ASSESSMENT

### 4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

**The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.**

Site specific MS/MSD analysis was not listed on the COC documents that accompanied the samples to the laboratory. Site specific MS/MSD was not reported in this data set. Batch QC MS/MSD was not reported in this data set. The laboratory reported LCS/LCSD data in each of the sample batches reported in this data set.

The laboratory prepared and analyzed a one (1) Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) with each sample batch. Three (3) aqueous LCS/LCSD sample sets are reported with this data report. The laboratory fortified each LCS and LCSD sample with a full component spike solution. York Analytical Laboratories used a "CLP Like" QC summary form to report the data results. In-house percent recovery limits (%) were applied to each target analyte. LCS/LCSD RPD (%) criteria (0-30) was applied.

The percent recovery (%) of each target analyte and the RPD (%) in the LCS/LCSD was reviewed in the LCS/LCSD sample sets associated with this laboratory report. The percent recovery (%) and RPD (%) of the reported target analytes met QC criteria in both the LCS and LCSD sample analyses reported in this data set with the exception of the following:

| Batch | Analyte | % Recovery | RPD (%) |
|---|---|---|---|
| BL91325_BS1 | 1,4-Dioxane | Low/OK | High |
| | Dichlorodifluoromethane | High/High | OK |
| BL91325_BS2 | Dichlorodifluoromethane | High/High | OK |
| | Tetrachloroethene | Low/OK | OK |
| BL91544 | Tetrachloroethene | Low/Low | OK |
| | 1,4-Dioxane | Low/OK | High |
| | TBA | OK/OK | High |

Samples reported from these sample batches have been estimated "J"/"UJ" qualified based on the LCS/LCSD results associated with the sample batch.

Qualified data result pages are located in Appendix B of this report.

## ORGANIC DATA ASSESSMENT

### 5. BLANK CONTAMINATION:

**Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. Samples were only qualified with those QC samples associated with the particular blank.**

**A) Method Blank contamination**

Two (2) method blank samples are associated with this data set. Each of the method blank samples were free from contamination of target compounds.

**B) Field or Equipment Rinse Blank (ERB) contamination**

One (1) Field Blank sample is associated with this data set. The Field Blank sample was free from contamination of target analytes with the exception of Methylene Chloride (5.0 ug/L). Methylene was not detected in the samples associated with this data set.

**C) Trip Blank contamination**

One (1) Trip Blank sample is associated with this data set. The Trip Blank sample was free from contamination of target and non-target compounds with the exception of Acetone (3.7 ug/L) and m,p-Xylene (0.53 J ug/L). When these target analytes have been detected in the field samples reported in this data set, these target analyte concentrations were reviewed. m,p-Xylene in sample MW-26S was higher than that attributed to the Trip Blank sample, no action was taken.

## ORGANIC DATA ASSESSMENT

### 6. GC/MS CALIBRATION:

**Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance. Region USEPA and Region II criteria is the sample for the analytes in both GC/MS Volatile and GC/MS Semivolatile Organic analyses is the same, therefore, all text discussion is for VOA and SVOA samples analyses where applicable.**

### A) RESPONSE FACTOR

**The response factor measures the instrument's response to specific chemical compounds. Region II data review requires that the response factor of all analytes be greater than or equal to 0.05 in both initial and continuing calibration analyses. A value less than 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Region II data validation criteria states that if the minimum RRF criteria are not met in an initial calibration the positive results are qualified "J". Non-detect results in the initial calibration with an RRF <0.05 are qualified "R", unusable. If RRF criteria is not met in the continuing calibration curve analysis, affected positive analytes will be qualified "J" estimated. Those analytes not detected are not qualified. The SW-846 Methods cite specific analytes known as System Performance Check Compounds (SPCC). Minimum response criteria are set for these analytes. If the minimum criteria are not met, analyses must stop, and the source of problems must be found and corrected. Data associated with this set has been reviewed for the criteria in the cited in the EPA Method and the Region II criteria.**

Two (2) multi-level initial calibration curve analyses are associated with this data set. Initial calibration curve analysis was performed on Instrument MSVOA7 (10/21/19) and MSVOA8 (12/30/19).

The laboratory summarized the RRF data on a CLP like Form 6A. The laboratory included all raw data and instrument summary forms in the laboratory report for review. The average RRF of target compounds met QC criteria in each of the initial calibration curve analyses associated with this data set with the exception of the following:

**Initial Curve - GCMSVOA7 – 10/21/19**
1,4-Dioxane – <0.005
1,4-Dioxane has been deemed "unreliable" "R" qualified in the samples reported from GCMSVOA7.

**Initial Curve - GCMSVOA8 – 12/30/19**
1,4-Dioxane – <0.005
1,4-Dioxane has been deemed "unreliable" "R" qualified in the samples reported from GCMSVOA8.

**CCV-V8-V816031.D (12/31/19)** - The average RRF of target compounds met QC criteria in the continuing calibration standard analysis with the exception of tert Butyl alcohol (TBA) RRF of 0.036. TBA has been deemed unreliable "R" qualified in the samples associated with this CCV analysis.

**6. GC/MS CALIBRATION (cont'd):**

**B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D):**

**Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the compounds in the continuing calibration standard to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Region II data validation criteria states that the percent RSD of the initial calibration curve must be less than or equal to 20% for all compounds with the exception of the continuing calibration check compounds (CCC's) where the %RSD must be less than 20%. The %D must be <20% in the continuing calibration standard. These criteria have been applied to all target analytes. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects may be flagged "UJ", based on professional judgment. If %RSD and %D grossly exceed QC criteria (>90%), non-detects data may be qualified "R", unusable. Data associated with this set has been reviewed for the criteria in the cited in the USEPA Data Validation Guidelines.**

Volatile Organic Analyses – Two (2) initial calibration curve analyses are associated with the samples reported in this data set. The laboratory performed the aqueous initial calibration analyses on instrument QVOA7 (10/21/19) and QVOA8 (12/30/19).

One (1) second source calibration standard was analyzed following each of the initial calibration curve analyses. The % RSD (0-30%) of the reported target analytes in this standard met QC criteria with the exception of that listed below:

GCMS MSVOA7 – 1,4-Dioxane (34.3%)
GCMS MSVOA8 – Dichlorodifluoromethane (31.8%), Tetrachloroethene (38.1%)

% Difference criteria (%D) criteria was reviewed in each of the continuing calibration standard analyses (CCV) standards associated with is data set. The % Difference was met for each of the reported target analytes with the exception of that listed below.

| Date/Instrument | Analyte | %RSD/%Difference |
|---|---|---|
| QVOA7 – 10/21/19 | 1,4-Dioxane | 34.3 |
| | m,p-Xylene | 22.4 |
| CCV (File ID: V737627.D) | 1,2,3-Trichlorobenzene | 32.4 |
| | 1,2,4-Trichlorobenzene | 29.2 |
| | 1,2-Dichloropropane | 20.9 |
| | 1,4-Dioxane | 27.5 |
| | Acrolein | 48.1 |
| | Bromomethane | 86.7 |
| | Carbon Disulfide | 22.0 |
| | Chloromethane | 38.8 |
| | Methyl Acetate | 22.0 |
| | Methylcyclohexane | 20.4 |

**6. GC/MS CALIBRATION (cont'd):**

**B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D) (cont'd):**

| Date/Instrument | Analyte | %RSD/%Difference |
|---|---|---|
| QVOA8 – 12/30/19 | Dichlorodifluoromethane | 31.8 |
| | Tetrachloroethene | 38.1 |
| CCV (File ID: V816031.D) | 2-Hexanone | 22.9 |
| | Acetone | 35.0 |
| | Acrolein | 41.1 |
| | Bromomethane | 49.0 |
| | tert-Butyl Alcohol (TBA) | 45.7 |

Target analytes associated with these standard analyses have been estimated "J"/"UJ" qualified in the samples reported from these initial calibration curve analyses and these initial calibration verification standard analyses that are associated with his data set.

Qualified data result pages are located in Appendix B of this report.

**7. GC/MS MASS SPECTROMETER TUNING:**

**Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is Bromofluorobenzene (BFB). If the mass calibration is in error, or missing, all associated data will be classified as unusable, "R".**

The BFB tune criteria listed in the data report met or exceeded that required by the method. The instrument tuning criteria associated with these sample analyses were met.

In addition to BFB Tune criteria, samples are to be analyzed within 12 hours of the BFB injection. The samples reported in this data set were analyzed within 12 hours of the BFB injection.

## ORGANIC DATA ASSESSMENT

### 8. GC/MS INTERNAL STANDARDS PERFORMANCE:

**Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every run. The method recommends that the internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The method recommends that the retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. The EPA CLP validation guidelines state that if the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified estimated, "J", and all non-detects below 50% are qualified "UJ", non-detects above 100% should not be qualified or "R" if there is a severe loss of sensitivity. The internal standard area count evaluation criteria are applied to all field and QC samples.**

The samples in this data set were fortified with the internal standards Chlorobenzene-d5, Fluorobenzene and 1,2-Dichlorobenzene-d4 prior to analysis. The area counts, and retention time of each internal standard met QC criteria in each of the field samples and QC samples associated with this data set.

### 9. COMPOUND IDENTIFICATION:

**Target compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary ion intensities with 20% of that in the standard compound.**

Laboratory Report 19L0859 included the analysis of two (2) aqueous samples, one (1) Trip Blank sample and one (1) Field Blank sample. The samples reported in this data set were collected on December 20, 2019 and were received at York Analytical Laboratories Inc. on December 23, 2019. The samples were analyzed in accordance with EPA Method 8260C. The laboratories standard VOA/Method 8260C compound list was reported. Sample results between the laboratory Limit of Detection (LOD) and Limit of Quantitation (LOQ) are reported "J" qualified by the laboratory. When sample dilution was used to analyze and report target analytes, detected analytes have been qualified "D" by the laboratory.

When target analytes were reported from an initial dilution analysis and/or secondary dilution analysis (greater than 1:1), the laboratory qualified the detected analyte results "D" on the laboratory report result page. Raw data for both analyses (where applicable) has been included in the laboratory report and reviewed during this data review. One (1) analyte result is reported for each target compound.

Sample MW-26S was analyzed and reported from a 1:200 dilution to report the concentration of target analytes within the calibration range of the GCMS.

Sample MW-27S was analyzed and reported from a 1:5 dilution to report the concentration of target analytes within the calibration range of the GCMS.

Qualified data result pages are located in Appendix B of this report.

## ORGANIC DATA ASSESSMENT

### 10. FIELD DUPLICATE ANALYSES:

Field duplicate samples are collected and analyzed as an indication of overall precision. Field duplicate results are expected to have more variability than laboratory duplicate samples. Non aqueous sample results are expected to have more variation due to the non-homogeneity of soil samples. RPD has been reviewed in these aqueous field duplicate sample analyses. RPD of the aqueous field duplicate target analytes >20 have been estimated "J" qualified in the sample and field duplicate sample.

A field duplicate sample was not listed on the COC documents associated with this data set.

### 11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

Analytical/method QC criteria was met for these analyses except where explained in the laboratory case narrative and detailed in this validation report. The data reported by the laboratory agrees with the raw data provided in the final report with the exception of that detailed in the above report. The laboratory provided a complete data package and reported all data using acceptable protocols and laboratory qualifiers as defined in the report package. All QC anomalies associated with this data set have been explained in the above sections of this DUSR report.

Sample results are reported to the LOQ. Laboratory results between the LOD and LOQ have been "J" qualified by the laboratory. Reporting limits and positive results are adjusted based on the sample volume/weight utilized for each extraction procedure. Dilution analysis was utilized to report any detected target analytes within the calibration range of the instrument. Report data provided for this data set are acceptable for use, with the noted data qualifiers.

Appendix B of this report contains copies of qualified data result pages.

| | |
|---|---|
| **DATA VALIDATION FOR:** | **Semivolatile Organic Compounds (SVOA's), SVOA SIM** |
| **SITE:** | **Queens Library** |
| **LABORATORY Report ID:** | **19L0859** |
| **CONTRACT LAB:** | **York Environmental Laboratories<br>Stratford, CT** |
| **REVIEWER:** | **Renee Cohen** |
| **DATE REVIEW COMPLETED:** | **February 2020** |
| **MATRIX:** | **Groundwater** |

**The data validation was performed according to the guidelines in the USEPA National Functional Guidelines for Organic Data Review and the USEPA Region II SOP HW-6-CLP Organic Data Review Preliminary Review. In addition, method and QC criteria specified in the NYSDEC ASP documents were cited. All data are considered valid and acceptable except those analytes which have been deemed unusable "R" (unreliable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.**

**Table 1 of this report includes a cross reference between the field sample ID and laboratory sample ID's. Copies of the data qualifiers that may be used in this report are located in Appendix A of this report. Qualified data result pages are located in Appendix B of this report. Copies of the Chain of Custody (COC) documents are located in Appendix C of this report.**

**This data assessment is for two (2) groundwater samples, one (1) Field Blank sample and one (1) Trip Blank sample that are listed on the COC documents that accompanied the samples to the laboratory. The samples in this data set were collected on December 20, 2019 and received at the laboratory on December 23, 2019 for the analyses requested on the COC documentation. The samples were analyzed for Volatile Organic Analytes (VOA), Semivolatile Organic Analytes (SVOA)/SVOA SIM, TPH DRO, TPH, GRO, Total Iron, Alkalinity and Sulfate per the COC document which accompanied the samples to the laboratory.**

## ORGANIC DATA ASSESSMENT

### 1. OVERVIEW:

This data review report is for the samples analyzed for Semivolatile Organic Analytes (SVOA's). These analyses were performed in accordance with the NYSDEC ASP methodologies. Data validation will utilize the validation guidelines listed above, however, QA/QC requirements of SW846 will supersede CLP requirements in terms of calibration and holding time where applicable. The groundwater samples were prepared and analyzed for Semivolatile Organic analytes via EPA Method 8270C. York Analytical Laboratories, Inc. generated a stand-alone report for each fraction in compliance with the NYS DEC ASP Category B deliverables. A summary of the applicable QC will be discussed at each section of the report.

### 2. HOLDING TIME:

**The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. The NYS DEC ASP criteria specifies holding times for solid and soil samples. These holding times are based on Validated Time of Sample Receipt (VTSR). The holding times cited in the NY ASP were reviewed.**

**Proper preservation of a soil sample is refrigeration at 4 degrees C until analysis. The holding time criteria for volatile organic samples is that properly soil samples are to be analyzed within ten (10) days of VTSR. The holding time criteria for semivolatile organic samples is that the extraction is to be completed within five (5) days of VTSR and that analysis of the extract is be completed within forty (40) days.**

Two (2) groundwater samples were prepared and analyzed for Semivolatile Organic Analytes (SVOA). The samples associated with this data set were collected December 20, 2019 and received at the laboratory on December 23, 2019. The groundwater samples were extracted in one (1) sample batch (BL91416) on December 26, 2019. Sample extract analysis and sample reanalysis was performed December 27, 2019 and December 30, 2019. The samples in this data set were prepared/extracted and analyzed within the method holding time.

### 3. SURROGATES:

**The samples to be analyzed for Semivolatile Organic Analytes (SVOA) are fortified with the surrogate compounds 2- Fluorophenol, Phenol-d5, 1,2-Nitrobenzene-d5, 2,4, 6-Tribromophenol, Nitrobenzene-d5, 2-Fluorobiphenyl and Terphenyl-d14 prior to sample extraction to evaluate the overall laboratory performance and the efficiency of the analytical technique. The laboratory reported in house QC limits for the Semivolatile Organic surrogates. Sample surrogate recoveries were summarized as required by the deliverable.**

Semivolatile Organic Analyses (EPA Method 8270D) - The surrogate recoveries associated with the groundwater samples reported in this data set met QC criteria in the initial sample analysis. Sample MW-26S was reanalyzed on 12/30/19. The percent recovery of 2-Fluorobiphenol was recovered above QC limit in sample MW-26RE1. No action was taken based on the one surrogate outlier. Sample MW-26S RE2 did not recover 5 of 6 surrogate compounds due to the dilution factor (1:500) utilized to report target analytes within the calibration range of the GCMS.

## 4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD/LABORATORY CONTROL SAMPLE ANALYSES (LCS):

**The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. This data set did not include the analysis of an MS/MSD sample set.**

Semivolatile Organic Analyses - Site-specific QC was not designated with the samples in this data set. Batch QC MS/MSD analyses was not reported with this data set. Sample data has not been qualified based on this QC anomaly.

The laboratory prepared and analyzed one LCS/LCSD with this sample batch. The laboratory applied in house % Recovery criteria and in house RPD criteria in the laboratory report. NJDEP DKQP QC criteria were reviewed. The samples in this data set were prepared in one (1) sample batch (BL91416). The percent recovery of the target analytes in the LCS met QC criteria with the exception of Benzoic Acid (0%/0%). Benzoic Acid has been deemed unreliable "R" qualified in sample MW-26S.

The RPD (%) of reported target analytes met QC criteria with the exception of Aniline (36.2%), and Bis (2-ethylhexylphthalate (22.6%). These target analytes have been estimated "J"/"UJ" qualified in sample MW-26S.

## 5. BLANK CONTAMINATION:

**Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. Samples were only qualified with those QC samples associated with the particular blank.**

### A) Method Blank contamination

Semivolatile Organic Analyses (EPA Method 8270D) – Two (2) method blank sample is associated with the soil samples in this data set. The method blank sample was free from contamination of target analytes.

### B) Field or Equipment Rinse Blank (ERB) contamination

The Field Blank sample was not analyzed for these semivolatile organic analyses.

### C) Trip Blank contamination

The Trip Blank sample was not analyzed for these semivolatile organic analyses.

## ORGANIC DATA ASSESSMENT

### 6. GC/MS CALIBRATION:

**Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance. Region USEPA and Region II criteria is the sample for all analytes in both GC/MS Volatile and GC/MS Semivolatile Organic analyses is the same, therefore, all text discussion is for VOA and SVOA samples analyses.**

### A) RESPONSE FACTOR

**The response factor measures the instrument's response to specific chemical compounds. Region II data review requires that the response factor of all analytes be greater than or equal to 0.05 in both initial and continuing calibration analyses. A value less than 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Region II data validation criteria states that if the minimum RRF criteria is not met in an initial calibration the positive results are qualified "J". Non-detect results in the initial calibration with an RRF <0.05 are qualified "R", unusable. If RRF criteria is not met in the continuing calibration curve analysis, affected positive analytes will be qualified "J" estimated. Those analytes not detected are not qualified. The SW-846 Methods cite specific analytes known as System Performance Check Compounds (SPCC). Minimum response criteria are set for these analytes. If the minimum criteria are not met, analyses must stop, and the source of problems must be found and corrected. Data associated with this set has been reviewed for the criteria in the cited in the EPA Method and the Region II criteria.**

Semivolatile Organic Analyses (EPA Method 8270D) – Two (2) initial calibration curve analyses are associated with this data set. An initial calibration curve analysis was performed on instrument BNA#6 on December 2, 2019 and September 25, 2017 for 8270D SIM analyses.

The RRF of target analytes met QC criteria in each of the initial calibration curve analyses reported in this data set.

One (1) second source calibration standard analysis (File ID: SV627599.D) was prepared and analyzed following with the SVOA calibration curve analysis. RRF criteria was met in this standard analysis.

One (1) second source calibration standard analysis (File ID: SV519108.D) was prepared and analyzed following with the SVOA SIM calibration curve analysis. RRF criteria was met in this standard analysis.

Two (2) continuing calibration standards (SV628148.D, 12/2/19, SV628177.D, SV628178.D) are associated with the initial calibration curve analysis. The RRF of the target compounds met QC criteria in the continuing calibration standard associated with this data set.

**6. GC/MS CALIBRATION (cont'd):**

**B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D):**

**Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the compounds in the continuing calibration standard to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Region II data validation criteria states that the percent RSD of the initial calibration curve must be less than or equal to 20%. The %D must be <20% in the continuing calibration standard. The criteria have been applied to all target analytes. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects may be flagged "UJ", based on professional judgment. If %RSD and %D grossly exceed QC criteria (>90%), non-detects data may be qualified "R", unusable. Data associated with this set has been reviewed for the criteria in the cited in the USEPA Data Validation Guidelines and the USEPA Region II criteria.**

Semivolatile Organic Analyses (EPA Method 8270D)– Two (2) initial calibration curve analyses are associated with this data set. The initial calibration curve analyses were performed on instrument BNA#6 (12/2/19) and BNA #5 (9/25/19).

The %RSD of the target compounds met QC criteria each of the initial calibration curve analysis associated with this data set.

One (1) second source calibration standard analysis (File ID: SV627599.D) was performed following the initial calibration analysis on GCMS instrument BNA #6. QC criteria (0-30%) was applied for the review of this standard.

| Date | Instrument ID | Analyte | %RSD |
|---|---|---|---|
| 12/2/19 | BNA#6 | 2,4-Dinitrophenol | 37.4 |
| | | 4,6-Dinitro-2-methyl phenol | 33.6 |

Qualified data result pages are located in Appendix B of this report.

Two (2) continuing calibration standard analyses are is associated with the field samples and QC samples reported in data set. The % Difference of the target compounds met QC criteria in the continuing calibration standard with the exception of the following:

| Date | Instrument ID | Analyte | % Difference |
|---|---|---|---|
| 12/2/19 | BNA#6*)* | 2,4-Dintrophenol | 78.5 |
| | (SV628148.D) | 4,6-Dinitro-2-methylphenol | 65.6 |
| | | Benzaldehyde | 32.9 |
| | | Benzidine | 68.0 |

Effected target analytes have been estimated "J"/"UJ" qualified in the samples reported in this data set.

Qualified data result pages are located in Appendix B of this report.

## 7. GC/MS INTERNAL STANDARDS PERFORMANCE:

**Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every run. The method recommends that the internal standard area count must not vary by more than a factor of 2 (-50%to +100%) from the associated continuing calibration standard. The method recommends that the retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. The EPA CLP validation guidelines state that if the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified estimated, "J", and all non-detects below 50% are qualified "UJ", non detects above 100% should not be qualified or "R" if there is a severe loss of sensitivity. The internal standard evaluation criteria are applied to all field and QC samples.**

Semivolatile Organic Analyses (EPA Method 8270D) – Each of the field samples and QC samples were fortified with the internal standards 1,4-Diclorobenzene-d4, Naphthalene-d8, Acenaphthene-d10, Phenanthrene-d10, Chrysene-d12 and Perylene-d12 prior to sample analysis. The area counts and retention time shift of each internal standard in each of the non-aqueous samples associated with this data set were reported. The Internal Standard criteria in each of the non-aqueous sample and QC samples reported in this data set met QC criteria.

## 8. GC/MS MASS SPECTROMETER TUNING:

**Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning compound for semivolatile organic analyses is decafluorotriphenylphosphine (DFTPP). If the mass calibration is in error, or missing, all associated data will be classified as unusable, "R".**

Semivolatile Organic Analyses – The tune criteria listed in the data report met or exceeded that required by the method. Tuning criteria associated with these sample analyses met QC criteria.

## ORGANIC DATA ASSESSMENT

### 9. COMPOUND IDENTIFICATION:

**Target compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary ion intensities with 20% of that in the standard compound. Target compounds are identified on the GC by using the analytes retention time. Concentration is quantitated from the initial calibration curve.**

Semivolatile Organic Analyses – Two (2) groundwater sample in this data set was prepared and analyzed for semivolatile organic analyses via EPA Method 8270D. The sample extracts were initially analyzed and reported without dilution. A number of target analytes exceeded the calibration range of the GCMS.

Sample MW-26S was initially prepared (12/26/19) and analyzed on 12/27/19. The sample extract was reanalyzed on December 30, 2019 from a 1:10 dilution to report the concentration of detected target analytes within the calibration range of the GCMS. An additional dilution analysis (1:500) was utilized to report the concentration of Naphthalene within the calibration range of the GCMS.

Sample MW-27S was initially analyzed and reported without dilution analysis. (DF 1:1). The sample extract was analyzed by Method 8270D SIM analysis to report a number of target analytes to a lower reporting limit. The SVOA SIM extract analysis was reanalyzed (DF 1:2) to report the concentration of Acenaphthene (7.51 ug/L).

Target analyte results reported between the laboratory method detection limit and the laboratory reporting limits have been reported and qualified "J" by the laboratory. York Analytical Laboratories applied a "D" qualifier to indicate a detected target analyte result. The "U" qualifier is applied to a non-detect target analyte result. The laboratory reported one (1) result for each reported target analyte.

### 10. FIELD DUPLICATE ANALYSES:

Field duplicate samples are collected and analyzed as an indication of overall precision. Field duplicate results are expected to have more variability than laboratory duplicate samples. Non aqueous sample results are expected to have more variation due to the non-homogeneity of soil samples. RPD has been reviewed in these aqueous field duplicate sample analyses. RPD of the aqueous field duplicate target analytes >20 have been estimated "J" qualified in the sample and field duplicate sample.

A field duplicate sample was not listed on the COC documents associated with this data set.

### 11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

Analytical QC criteria were met for these analyses with the exception of what was described in the above report. The data reported agrees with the raw data provided in the final report. The laboratory provided a complete data package and reported all data using acceptable protocols and laboratory qualifiers as defined in the report package.

The data reported for this data set is acceptable for use, with noted data qualifiers.

The qualified data result pages are located in Appendix B of this report.

| | |
|---|---|
| **DATA VALIDATION FOR:** | **Total Petroleum Hydrocarbons (Diesel Range Organics – DRO)** |
| **SITE:** | **Queens Library** |
| **LABORATORY Report ID:** | **19L0859** |
| **CONTRACT LAB:** | **York Environmental Laboratories<br>Stratford, CT** |
| **REVIEWER:** | **Renee Cohen** |
| **DATE REVIEW COMPLETED:** | **February 2020** |
| **MATRIX:** | **Groundwater** |

**The data validation was performed according to the guidelines in the USEPA National Functional Guidelines for Organic Data Review and the USEPA Region II SOP HW-6-CLP Organic Data Review Preliminary Review. In addition, method and QC criteria specified in the NYSDEC ASP documents were cited. All data are considered valid and acceptable except those analytes which have been deemed unusable "R" (unreliable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.**

**Table 1 of this report includes a cross reference between the field sample ID and laboratory sample ID's. Copies of the data qualifiers that may be used in this report are located in Appendix A of this report. Qualified data result pages are located in Appendix B of this report. Copies of the Chain of Custody (COC) documents are located in Appendix C of this report.**

**This data assessment is for two (2) groundwater samples, one (1) Field Blank sample and one (1) Trip Blank sample that are listed on the COC documents that accompanied the samples to the laboratory. The samples in this data set were collected on December 20, 2019 and received at the laboratory on December 23, 2019 for the analyses requested on the COC documentation. The samples were analyzed for Volatile Organic Analytes (VOA), Semivolatile Organic Analytes (SVOA), TPH DRO, TPH GRO, Total Iron, Alkalinity and Sulfate per the COC document which accompanied the samples to the laboratory.**

**ORGANIC DATA ASSESSMENT**

## 1. OVERVIEW:

This data review report is for the samples analyzed for Total Petroleum Hydrocarbons – Diesel Range Organics (DRO). These analyses were performed in accordance with the NYSDEC ASP methodologies. Data validation will utilize the validation guidelines listed above, however, QA/QC requirements of SW846 will supersede CLP requirements in terms of calibration and holding time where applicable. The groundwater samples were prepared and analyzed for Diesel Range Organics/TPH via EPA Method 8015D. York Analytical Laboratories, Inc. generated a stand-alone report for each fraction in compliance with the NYS DEC ASP Category B deliverables. A summary of the applicable QC will be discussed at each section of the report.

## 2. HOLDING TIME:

**The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. The NYS DEC ASP criteria specifies holding times for solid and soil samples. These holding times are based on Validated Time of Sample Receipt (VTSR). The holding times cited in the NY ASP were reviewed.**

**Proper preservation of a soil sample is refrigeration at 4 degrees C until analysis. The holding time criteria for volatile organic samples is that properly soil samples are to be analyzed within ten (10) days of VTSR. The holding time criteria for semivolatile organic samples is that the extraction is to be completed within five (5) days of VTSR and that analysis of the extract is be completed within forty (40) days.**

Two (2) groundwater samples were prepared and analyzed for TPH-DRO. The samples associated with this data set were collected December 20, 2019 and received at the laboratory on December 23, 2019. The groundwater samples were extracted in one (1) sample batch (BL91446) on December 27, 2019. Sample extract analysis was performed December 27, 2019. The samples in this data set were prepared/extracted and analyzed within the method holding time.

## 3. SURROGATES:

**The samples to be analyzed for Total Petroleum Hydrocarbons – Diesel Range Organics were fortified with the surrogate compound Triacontane prior to sample extraction to evaluate the overall laboratory performance and the efficiency of the analytical technique. The laboratory reported in house QC limits (40-150%) for the Diesel Range Organics surrogate compounds. Sample surrogate recoveries were summarized as required by the deliverable.**

The surrogate recovery associated with these groundwater samples set met QC criteria in the reported sample analyses.

## 4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD/LABORATORY CONTROL SAMPLE ANALYSES (LCS):

**The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. This data set did not include the analysis of an MS/MSD sample set.**

Site-specific MS/MSD and/or Batch QC MS/MSD was not designated and/or reported with the samples in this data set. Sample data has not been qualified based on this QC anomaly.

The laboratory prepared and analyzed one LCS/LCSD with this sample batch. The laboratory applied in house % Recovery criteria and in house RPD criteria in the laboratory report. NJDEP DKQP QC criteria were reviewed. The samples in this data set were prepared in one (1) sample batch (BL91446). The percent (%) recovery in the LCS and LCSD met in-house QC criteria. RPD (%) in the LCS/LCSD met in-house QC criteria.

## 5. BLANK CONTAMINATION:

**Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. Samples were only qualified with those QC samples associated with the particular blank.**

**A) Method Blank contamination**

One (1) method blank sample (BL91446) is associated with the samples in this data set. The method blank sample was free from contamination of target analytes.

**B) Field or Equipment Rinse Blank (ERB) contamination**

The Field Blank sample was not analyzed for these analyses.

**C) Trip Blank contamination**

The Trip Blank sample was not analyzed for these analyses.

## 6. GC CALIBRATION:

**Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.**

One (1) multi-level initial calibration curve analysis is associated with this data set. An initial calibration curve analysis was performed on instrument Fuel 1 (January 18, 2019). One (1) initial calibration verification standard (ICV) was analyzed following the initial calibration curve analysis. QC criteria was met in the ICV standard analysis.

The RRF of target analytes met QC criteria in the initial calibration curve analysis reported in this data set.

One (1) continuing calibration standard (GC915315.D/12/27/19) is associated with the samples reported in this data set. QC criteria was met in the CC standard analysis.

## 7. COMPOUND IDENTIFICATION:

**Target compounds are identified on the GC by using the analyte's relative retention time (RRT) and pattern peaks in comparison to the known standards. Concentration is quantitated from the initial calibration curve.**

The monitoring well samples listed on the COC documents were analyzed for Diesel Range Organics (DRO). DRO results reported between the laboratory method detection limit and the laboratory reporting limits have been reported and qualified "J" by the laboratory. York Analytical Laboratories applied a "D" qualifier to indicate a detected target analyte result. The "U" qualifier is applied to a non-detect target analyte result.

## 8. LABORATORY CONTROL SAMPLE ANALYSIS (LCS):

The laboratory control sample (LCS) analysis provides information about the efficiency of the laboratory digestion procedure. If the recovery of any analyte is outside the established control limits, then laboratory performance and method accuracy are in question. Professional judgment is used to determine of data should be qualified or rejected.

The laboratory prepared and analyzed one (1) Laboratory Control Sample (LCS) with each of the wet chemistry analyses reported in this data set. The % Recovery of the reported analyte met QC criteria in each of the reported wet chemistry analytes reported in this data set.

## 9. COMPOUND IDENTIFICATION:

Sample results are reported in accordance with the cited methods. A review of the raw data was performed for these wet chemistry analyses. Sample results were reported in accordance with the analytical method. The laboratory applied a "J" qualifier to report a target analyte result between the laboratory MDL and laboratory RL.

Non detect sample results are reported to the base reporting limit. Detected target analyte results are reported within the calibration range of the instrument. If the detected target analyte result exceeded the calibration range of the method, dilution analysis was performed to report the target analyte result within the calibration range.

## 10. FIELD DUPLICATE/LABORATORY DUPLICATE DATA:

Field duplicate samples are taken and analyzed as an indication of overall precision. The field duplicate sample analyses measure both field and laboratory precision; therefore, the results may have more variability than lab duplicate samples. A Field Duplicate sample analysis is not associated with this data set.

Site specific laboratory duplicate analysis was reported for these wet chemistry analyses. Laboratory duplicate RPD (%) for Alkalinity and Sulfate analyses met QC criteria.

## 11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT:

Analytical QC criteria were met for these analyses with the exception of what was described in the above report. The data reported agrees with the raw data provided in the final report. The laboratory provided a complete data package and reported all data using acceptable protocols and laboratory qualifiers as defined in the report package.

The data reported for this data set is acceptable for use, without data qualifiers.

| | |
|---|---|
| **DATA VALIDATION FOR:** | **Total Petroleum Hydrocarbons (Gasoline Range Organics – GRO)** |
| **SITE:** | **Queens Library** |
| **LABORATORY Report ID:** | **19L0859** |
| **CONTRACT LAB:** | **York Environmental Laboratories Stratford, CT** |
| **REVIEWER:** | **Renee Cohen** |
| **DATE REVIEW COMPLETED:** | **February 2020** |
| **MATRIX:** | **Groundwater** |

**The data validation was performed according to the guidelines in the USEPA National Functional Guidelines for Organic Data Review and the USEPA Region II SOP HW-6-CLP Organic Data Review Preliminary Review. In addition, method and QC criteria specified in the NYSDEC ASP documents were cited. All data are considered valid and acceptable except those analytes which have been deemed unusable "R" (unreliable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.**

**Table 1 of this report includes a cross reference between the field sample ID and laboratory sample ID's. Copies of the data qualifiers that may be used in this report are located in Appendix A of this report. Qualified data result pages are located in Appendix B of this report. Copies of the Chain of Custody (COC) documents are located in Appendix C of this report.**

**This data assessment is for two (2) groundwater samples, one (1) Field Blank sample and one (1) Trip Blank sample that are listed on the COC documents that accompanied the samples to the laboratory. The samples in this data set were collected on December 20, 2019 and received at the laboratory on December 23, 2019 for the analyses requested on the COC documentation. The samples were analyzed for Volatile Organic Analytes (VOA), Semivolatile Organic Analytes (SVOA), TPH DRO, TPH GRO, Total Iron, Alkalinity and Sulfate per the COC document which accompanied the samples to the laboratory.**

## ORGANIC DATA ASSESSMENT

### 1. OVERVIEW:

This data review report is for the samples analyzed for Gasoline Range Hydrocarbons – Gasoline Range Organics (GRO). These analyses were performed in accordance with the NYSDEC ASP methodologies. Data validation will utilize the validation guidelines listed above, however, QA/QC requirements of SW846 will supersede CLP requirements in terms of calibration and holding time where applicable. The groundwater samples were prepared and analyzed for Gasoline Range Organics/TPH via EPA Method 8015D. York Analytical Laboratories, Inc. generated a stand-alone report for each fraction in compliance with the NYS DEC ASP Category B deliverables. A summary of the applicable QC will be discussed at each section of the report.

### 2. HOLDING TIME:

**The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. The NYS DEC ASP criteria specifies holding times for solid and soil samples. These holding times are based on Validated Time of Sample Receipt (VTSR). The holding times cited in the NY ASP were reviewed.**

**Proper preservation of a soil sample is refrigeration at 4 degrees C until analysis. The holding time criteria for volatile organic samples is that properly soil samples are to be analyzed within ten (10) days of VTSR.**

Two (2) groundwater samples were prepared and analyzed for TPH-GRO. The samples associated with this data set were collected December 20, 2019 and received at the laboratory on December 23, 2019. The groundwater samples were analyzed December 30-31, 2019. The samples in this data set were analyzed within the method holding time.

### 3. SURROGATES:

**The samples to be analyzed for Total Petroleum Hydrocarbons – Gasoline Range Organics were fortified with the surrogate compound 4-Bromofluorobenzene prior to sample analysis to evaluate the overall laboratory performance and the efficiency of the analytical technique. The laboratory reported in house QC limits (70-130%) for these Gasoline Range Organics analyses. Sample surrogate recoveries were summarized as required by the deliverable.**

The surrogate recovery associated with these groundwater samples set met QC criteria.

### 4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD/LABORATORY CONTROL SAMPLE ANALYSES (LCS):

**The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. This data set did not include the analysis of an MS/MSD sample set.**

Site-specific MS/MSD and/or Batch QC MS/MSD was not designated and/or reported with the samples in this data set. Sample data has not been qualified based on this QC anomaly.

The laboratory prepared and analyzed one LCS sample. The laboratory applied in house % Recovery criteria and in house RPD criteria in the laboratory report. NJDEP DKQP QC criteria were reviewed. The samples in this data set were prepared in one (1) sample batch (BL91603). The percent (%) recovery in the LCS met in-house QC criteria. .

# ORGANIC DATA ASSESSMENT

## 5. BLANK CONTAMINATION:

**Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. Samples were only qualified with those QC samples associated with the particular blank.**

### A) Method Blank contamination

One (1) method blank sample (BL91603) is associated with the samples in this data set. The method blank sample was free from contamination of target analytes.

### B) Field or Equipment Rinse Blank (ERB) contamination

The Field Blank sample was not analyzed for TPH GRO analyses.

### C) Trip Blank contamination

The Trip Blank sample was not analyzed for TPH GRO analyses.

## 6. GC CALIBRATION

**Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.**

One (1) multi-level initial calibration curve analysis is associated with this data set (10/30/19 – GCGRO). One (1) CCV standard was analyzed (12/30/19_GG719580.D (12/30/19) prior to sample analysis. QC criteria was met in these calibration analyses.

## 7. LABORATORY CONTROL SAMPLE ANALYSIS (LCS)

The laboratory control sample (LCS) analysis provides information about the efficiency of the laboratory digestion procedure. If the recovery of any analyte is outside the established control limits, then laboratory performance and method accuracy are in question. Professional judgment is used to determine of data should be qualified or rejected.

The laboratory analyzed one (1) Laboratory Control Sample (LCS) with the GRO analyses. The recovery of TPH-GRO met in house QC limit.

## 8. COMPOUND IDENTIFICATION

Sample results are reported in accordance with the cited methods. A review of the raw data was performed for these TPH GRO analyses. Sample results were reported in accordance with the analytical method. Sample results are reported in mg/L.

# ORGANIC DATA ASSESSMENT

## 9. FIELD DUPLICATE/LABORATORY DUPLICATE DATA RESULTS:

Field duplicate samples are taken and analyzed as an indication of overall precision. The field duplicate sample analyses measure both field and laboratory precision; therefore, the results may have more variability than lab duplicate samples. A Field Duplicate sample analysis is not associated with this data set.

Laboratory duplicate analyses were not reported with these TPH-GRO analyses.

## 10. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The TPH GRO analyses associated with the two monitoring well (MW) samples were reported and analyzed for the parameters listed on the COC documents that accompanied the samples to the laboratory.

The Field Blank sample and the Trip Blank sample were not analyzed for TPH GRO. The TPH GRO analyses are reported without dilution analysis.

These sample results are acceptable for use without data qualifiers.

| | |
|---|---|
| **DATA VALIDATION FOR:** | **Total Iron (Fe)** |
| **SITE:** | **Queens Library** |
| **PROJECT NUMBER:** | **19L0859** |
| **CONTRACT LAB:** | **York Analytical Laboratories, Inc.<br>Stratford, CT** |
| **REVIEWER:** | **Renee Cohen** |
| **DATE REVIEW COMPLETED:** | **February 2020** |
| **MATRIX:** | **Aqueous** |

**The data validation was performed according to the guidelines in the SOP No. HW-2 (Revision 13), September 2006 for the Evaluation of Metal Data for the Contract Laboratory Program. All data are considered valid and acceptable except those analytes which have been rejected "R" (unusable/unreliable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.**

**The "R" flag means that the associated value is unusable. In other words, significant data bias is evident, and the reported analyte concentration is unreliable.**

**Appendix A of this report contains a copy of the definitions that may be used in this report. Appendix B of this report contains the qualified data result pages associated with this data set. Appendix C of this report contains a copy of the Chain of Custody (COC) documents that accompanied the samples to the laboratory.**

**This data assessment is for the aqueous samples that were marked on the Chain of Custody documents for A cross-reference between Field Sample ID and Laboratory Sample ID is located in Table 1 of this report.**

**The samples in these data set were collected on December 20, 2019 and received at the laboratory on December 23, 2019. The COC document listed the samples in this data set. The samples were analyzed for the parameters listed on the chain of custody documents that accompanied the samples to the laboratory. A copy of the COC documents associated with his data set is located in Appendix C of this report.**

## INORGANIC DATA ASSESSMENT

### 1. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Metals with the exception of Mercury, are required to be digested and analyzed within 180 days of Verified Time of Sample Receipt (VTSR). Mercury samples are to be digested and analyzed within 26 days of VTSR.

The laboratory prepared, analyzed and reported the project specified metals in each of the aqueous samples reported in this data set. The samples were prepared/digested for Total ICP Metals in one (1) sample batch on December 20, 2019. These sample digestates were analyzed in one (1) ICP analytical sequence on December 30, 2019. Holding time criteria for sample preparation and sample analysis was met for the samples reported in this data set.

### 2. CALIBRATION ANALYSIS

Inductively Coupled Plasma (ICP) was utilized for these analyses. The ICP was calibrated using a single point standard as required by the manufacturer. The initial calibration verification (ICV) standard was then analyzed to verify instrument calibration. ICV criteria (70-130%) was met in these sequences. The ICP metal analyses were analyzed in one (1) analytical sequence on December 30, 2019 on instrument Nexion2000C. Recovery of the ICV standard in the analytical sequence met QC criteria. Continuing calibration verification (CCV) standards were then analyzed after each ten (10) field samples in the sequence. CCV percent recoveries met QC criteria.

### 3. CRDL STANDARD

**The CRDL standard is used for the verification of instrument linearity near the CRDL. The CRDL standard control limits are 70-130% recovery. If the CRDL standard falls outside of the control limits, associated data less than or equal to the 10X the CRDL are qualified estimated (J or UJ) or rejected (R) depending on the recovery of the CRDL standard and the concentration of the analyte in the sample. When the CRDL standard exceeds the control limit, indicating a high bias, and the associated sample results are reported non-detect, no action is taken. When the CRDL standard exceeds the control limit, indicating a high bias positive sample results are qualified estimated (J).**

The samples in this data set were analyzed for Total Iron. The analytical sequence associated with this data set included an ICP CRDL standard. The percent recovery of the reported target analyte met QC criteria (75-125%) in the CRDL standard reported in this data set.

### 4. INTERFERENCE CHECK STANDARD

**The Interference Check Standard (ICS) is used to verify the laboratory interelement and background correction factors of the ICP. Two solutions comprise the ICS A and ICS AB. Solution A consists of the interferent metals while solution AB is the group of target analytes and the interferent metals. An ICS analysis consists of analyzing both solutions consecutively for all wavelengths used for each analyte reported by ICP.**

The samples in this data set were analyzed for Total and Dissolved Iron. ICSA and ICSAB recovery reported in the analytical sequence met QC criteria (80-120%).

## 5. MATRIX SPIKE ANALYSIS

**The spike sample analysis provides information about the effect of the sample matrix upon the digestion and measurement methodology. The spike control limits are 75%-125% when the sample concentration is less than four (4) times the spike added. If the matrix spike recoveries fall in the range of 30%-74%, the sample results are may be biased low and are qualified as estimated (J or UJ). If the matrix spike recoveries fall in the range of 126%-200%, sample results may be biased high. Positive results are qualified estimated (J). If the spike recovery is greater than 125% and the reported sample result is less than the IDL the data point is acceptable for use. If the matrix spike recovery is greater than 200%, the associated sample data are unusable and are rejected (R). If matrix spike results are less than 30%, the associated non-detect results are qualified unusable and rejected (R), and the results reported above the IDL are qualified estimated (J).**

Site specific MS/MSD and/or Batch QC MS/MSD analyses are not reported with this data set. Sample data has not been qualified based on this QC outlier.

## 6. POST DIGESTION SPIKE ANALYSIS

**The post digestion spike sample analysis provides additional information about the effect of the sample matrix upon the digestion and measurement methodology. The post digestion spike is performed for each analyte that the pre-digestion spike recovery falls outside the 75-125% control limit.**

Post digestion matrix spike analysis (PDS) is not associated with this data set.

## 7. DUPLICATE SAMPLE ANALYSIS

**The duplicate sample analysis is used to evaluate the precision of the methods for each parameter. If the duplicate sample analysis results for a particular analyte fall outside the control windows of 20% RPD or =/- CRDL, whichever is appropriate depending upon the concentration of the sample, the associated sample results are qualified "J" estimated.**

Site specific laboratory duplicate sample analysis was not prepared/analyzed and reported in this data set. Batch QC duplicate analyses are not reported in this data set. Sample data has not been qualified based on this QC outlier.

## 8. ICP SERIAL DILUTION ANALYSIS

**The serial dilution analysis indicates whether significant physical or chemical interferences exist due to the sample matrix. If the concentration of any analyte in the original sample is greater than 50 times the instrument detection limit (IDL), an analysis of a 5-fold dilution samples must yield results which have a percent difference (%D) of less than or equal to 10 with the original sample results. If the %D of the serial dilution exceeds the 10% (and is not greater than 100%) for a particular analyte, all the associated sample results are qualified estimated (J).**

ICP Serial Dilution analysis is not associated with this data set. Sample data has not been qualified based on this QC sample.

## INORGANIC DATA ASSESSMENT

### 9. BLANKS

**Blank analyses are assessed to determine the existence and magnitude of contamination problems. The criteria used for the evaluation of blanks applies to all blanks, including but not limited to reagent blanks, method blanks and field blanks. The responsibility for action in the case of an unsuitable blank result depends upon the circumstances and the origin of the blank itself. If the problem with any blank exists, then all associated data must be carefully evaluated to determine whether there is inherent variability in the data for that case, or the problem is an isolated occurrence not affecting other data.**

One (1) method blank sample is associated with this data set. The method blank sample detected Iron at a concentration of 1.38 ug/L. The concentration of Iron in the field samples reported in this data sets was higher than that attributed to the method blank sample. Sample data has not been qualified based on the results of Iron in the method blank sample.

### 10. LABORATORY CONTROL SAMPLE ANALYSIS

**The laboratory control sample (LCS) analysis provides information about the efficiency of the digestion procedure. If the recovery of any analyte is outside the reported in-house control limits, then laboratory performance and method accuracy are in question. Professional judgment is used to determine of data should be qualified or rejected.**

One (1) sample batch is associated with this data set. The laboratory applied QC limits (90-110%) to the laboratory control sample (LCS) recovery. The recovery of target analytes met QC criteria in each of the LCS sample reported in this data set.

### 11. SAMPLE RESULTS DATA

Laboratory report 19L0859 reports the analytical results of the review of two (2) aqueous samples for Total Iron (Fe). The samples in this data set were prepared and analyzed for Total Iron. Target analyte results were reported in ug/L (ppb). Samples were analyzed in accordance with the cited methods. York Analytical Laboratories, Inc. reported detected analyte results above the laboratory reporting limit (RL).

### 12. FIELD DUPLICATE SAMPLE DATA

Field duplicate samples are collected and analyzed as an indication of overall precision. These results are expected to have more variability than laboratory duplicate samples. Soil samples will have a greater variance due to the difficulties associated with collecting exact duplicate soil samples than aqueous samples. RPD < than 20% in these aqueous sample analyses indicates acceptable precision.

Field Duplicate sample analyses are not associated with this data set.

### 13. INSTRUMENT QC DATA

The laboratory is required by the method to perform specific instrument verification tests on a specific timeframe. Based on a review of the QC summary forms included in the data report, this QC criteria has been met.

### 14. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

This data review report includes the analysis of the samples marked on the Chain of Custody documents for Total Iron. Sample results have been reported in accordance with the cited methods. The data associated with this data set is acceptable for use without data qualifiers.

# NYS DEC Data Usability Summary Report

| | |
|---|---|
| **DATA VALIDATION FOR:** | **Miscellaneous Wet Chemistry** |
| **SITE:** | **Queens Library** |
| **CONTRACT LAB:** | **York Analytical Laboratories, Inc.<br>Stratford, CT** |
| **REPORT NO.:** | **19L0859** |
| **REVIEWER:** | **Renee Cohen** |
| **DATE REVIEW COMPLETED:** | **February 2020** |
| **MATRIX:** | **Groundwater** |

The Chain of Custody (COC) documentation associated with this data set listed two (2) monitoring well samples, one (1) Field Blank sample and one Trip blank sample. The samples were collected December 20, 2019 and received at the laboratory on December 23, 2019.

The data evaluation was performed according to the guidelines and QC criteria cited in the miscellaneous wet chemistry methods that were used for this data set. A Data Usability Summary Report (DUSR) has been prepared in accordance with the guidelines of the Division of Environmental Remediation.

Several factors should be noted for all persons using this data. Persons using this data should be aware that no result is guaranteed to be accurate even if it has passed all QC tests. The main purpose of this review is to appropriately qualify outliers and to determine whether the results presented meet the specific site/project criteria for data quality and data use.

Table 1 of this report contains a cross reference between the Field Sample ID's and the Laboratory Sample ID's. Appendix A of this Data Usability Summary Report (DUSR) contains a summary of the data qualifiers that may be used in the report. Appendix B contains the qualified data result pages. Appendix C contains the Chain of Custody (COC) documents associated with this data set.

The laboratory performed these wet chemistry analyses based on the COC documentation that accompanied the samples to the laboratory. In addition, these samples were analyzed for Volatile Organic Analytes (VOA), Semivolatile Organic analyses (SVOC) , Total Petroleum Hydrocarbons GRO and DRO and Total Iron.
The review of these various analyses is reported in stand-alone DUS reports. This data review is associated with the Miscellaneous Wet Chemistry Analyses.

# DATA USABILITY SUMMARY REPORT (DUSR)

## 1. OVERVIEW

This data report includes the review of the aqueous samples that were collected December 20, 2019 and received at the laboratory December 22, 2019. The samples were received in good condition.

Table 1 of this report is a cross reference between the field sample ID and laboratory sample ID. Two (2) field samples, one (1) Field Blank sample and one (1) Trip Blank sample were submitted to the laboratory for the analyses listed on the COC documents.

The samples in this data set were analyzed for the parameters listed on the COC documents. A full data deliverable was generated to report these sample results. The aqueous samples in this data set were analyzed for miscellaneous Wet Chemistry analytes. This data review is associated with these Sulfate and Alkalinity analyses.

## 2. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid.

The laboratory chronicles list the date of analysis for each of the Miscellaneous Wet Chemistry analyses. The holding time for each of the reported analyses is reported on the analytical result pages located in Appendix B of this report. Sample results are reported within the method holding time.

Sulfate – The samples in this data set were prepared and analyzed on December 24, 2019.
Alkalinity – The samples int his data set were prepared and analyzed on December 27, 2019.

## 3. CALIBRATION ANALYSIS

The laboratory summarized the initial and continuing calibration data associated with each of the wet chemistry analytes where applicable. Initial and continuing calibration standard analyses associated with this data set met QC criteria for each of the analytes reported in this data set.

## 4. MATRIX SPIKE (MS) ANALYSIS

The spike sample analysis provides information about the effect of the sample matrix upon the digestion and measurement methodology. The spike control limits are designated by York Analytical Laboratories, Inc. The in-house recovery limits are cited on the QC summary report pages for each analyte where applicable.

Site specific Sulfate matrix spike (MS) analysis on sample MW-27S. The percent recovery was outside QC limit however, no action was taken based on the concentration of Sulfate in the unspiked sample versus the matrix spike concentration.

## 5. DUPLICATE SAMPLE ANALYSIS

The laboratory duplicate sample analysis is used to evaluate the laboratory precision of the method for each analyte. If the duplicate sample analysis results for a particular analyte fall outside the control windows of 20% RPD depending upon the concentration of the sample, the associated sample results are qualified "J" estimated.

Laboratory Duplicate sample analyses is reported for both the Sulfate and Alkalinity analyses reported int his data set. Sample MW-26S was analyzed in duplicate for Sulfate. The RPD (%) met QC criteria, Sample MW-27S was analyzed in Duplicate for Alkalinity. The RPD (%) met QC criteria.

# DATA USABILITY SUMMARY REPORT (DUSR)

## 6. BLANKS

Blank analyses are assessed to determine the existence and magnitude of contamination problems. The criteria for the evaluation of blanks applies to all blanks, including but not limited to reagent blanks, method blanks and field blanks. The responsibility for action in the case of an unsuitable blank result depends upon the circumstances and the origin of the blank itself. If the problem with any blank exists, then all associated data must be carefully evaluated to determine whether there is inherent variability in the data for that case, or the problem is an isolated occurrence not affecting other data.

The laboratory provided Method Blank data results for each of the Wet Chemistry analyte where applicable. The method blank and/or preparation blanks associated with these miscellaneous Wet Chemistry methods were free from contamination of the target analyte above the reporting limit.

The Field Blank (FB) sample was not analyzed for Sulfate and/or Alkalinity.

## 7. LABORATORY CONTROL SAMPLE ANALYSIS (LCS)

The laboratory control sample (LCS) analysis provides information about the efficiency of the laboratory digestion procedure. If the recovery of any analyte is outside the established control limits, then laboratory performance and method accuracy are in question. Professional judgment is used to determine of data should be qualified or rejected.

The laboratory prepared and analyzed one (1) Laboratory Control Sample (LCS) with each of the wet chemistry analyses reported in this data set. The % Recovery of the reported analyte met QC criteria in each of the reported wet chemistry analytes reported in this data set.

## 8. COMPOUND IDENTIFICATION

Sample results are reported in accordance with the cited methods. A review of the raw data was performed for these wet chemistry analyses. Sample results were reported in accordance with the analytical method. The laboratory applied a "J" qualifier to report a target analyte result between the laboratory MDL and laboratory RL.

Non detect sample results are reported to the base reporting limit. Detected target analyte results are reported within the calibration range of the instrument. If the detected target analyte result exceeded the calibration range of the method, dilution analysis was performed to report the target analyte result within the calibration range.

## 9. FIELD DUPLICATE/LABORATORY DUPLICATE DATA RESULTS:

Field duplicate samples are taken and analyzed as an indication of overall precision. The field duplicate sample analyses measure both field and laboratory precision; therefore, the results may have more variability than lab duplicate samples. A Field Duplicate sample analysis is not associated with this data set.

Site specific laboratory duplicate analysis was reported for these wet chemistry analyses. Laboratory duplicate RPD (%) for Alkalinity and Sulfate analyses met QC criteria.

# DATA USABILITY SUMMARY REPORT (DUSR)

## 10. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The inorganic wet chemistry analyses associated with the two monitoring well (MW) samples were reported and analyzed for the parameters listed on the COC documents that accompanied the samples to the laboratory.

The Field Blank sample and the Trip Blank sample were not analyzed for these wet chemistry analyses.

A copy of the associated Chain of Custody documents is located in Appendix C of this report. The sample results are reported in accordance with the cited methods.

The miscellaneous wet chemistry analyte results reported in this data set are acceptable for use without data qualifiers.

**TABLE 1**

| FIELD SAMPLE ID | LABORATORY ID |
|---|---|
| MW-26S | 19L0859-01 |
| MW-27S | 19L0859-02 |
| Field Blank | 19L0859-03 |
| Trip Blank | 19L0859-04 |

# APPENDIX A

## DATA QUALIFIER DEFINITIONS

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

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

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

# APPENDIX B

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**MW-26S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-01 | File ID: | V737645.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/24/19 12:30 | Analyzed: | 12/25/19 13:38 |
| Solids: | | Preparation: | EPA 5030B | Initial/Final: | 25 mL / 25 mL |
| Batch: | BL91325 | Sequence: | Y9L2706 | Calibration: | YJ90021 |
| Instrument: | MSVOA7 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 200 | 100 | U | |
| 71-55-6 | 1,1,1-Trichloroethane | 200 | 100 | U | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 200 | 100 | U | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 200 | 100 | U | |
| 79-00-5 | 1,1,2-Trichloroethane | 200 | 100 | U | |
| 75-34-3 | 1,1-Dichloroethane | 200 | 100 | U | |
| 75-35-4 | 1,1-Dichloroethylene | 200 | 100 | U | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 200 | 100 | U | UJ |
| 96-18-4 | 1,2,3-Trichloropropane | 200 | 100 | U | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 200 | 100 | U | UJ |
| 95-63-6 | 1,2,4-Trimethylbenzene | 200 | 280 | D | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 200 | 100 | U | |
| 106-93-4 | 1,2-Dibromoethane | 200 | 100 | U | |
| 95-50-1 | 1,2-Dichlorobenzene | 200 | 100 | U | |
| 107-06-2 | 1,2-Dichloroethane | 200 | 100 | U | |
| 78-87-5 | 1,2-Dichloropropane | 200 | 100 | U | |
| 108-67-8 | 1,3,5-Trimethylbenzene | 200 | 96 | JD | |
| 541-73-1 | 1,3-Dichlorobenzene | 200 | 100 | U | |
| 106-46-7 | 1,4-Dichlorobenzene | 200 | 100 | U | |
| 123-91-1 | 1,4-Dioxane | 200 | 8000 | U | R |
| 78-93-3 | 2-Butanone | 200 | 400 | U | |
| 591-78-6 | 2-Hexanone | 200 | 100 | U | |
| 108-10-1 | 4-Methyl-2-pentanone | 200 | 100 | U | |
| 67-64-1 | Acetone | 200 | 400 | U | |
| 107-02-8 | Acrolein | 200 | 400 | U | |
| 107-13-1 | Acrylonitrile | 200 | 100 | U | |
| 71-43-2 | Benzene | 200 | 3400 | D | |
| 74-97-5 | Bromochloromethane | 200 | 100 | U | |
| 75-27-4 | Bromodichloromethane | 200 | 100 | U | |
| 75-25-2 | Bromoform | 200 | 100 | U | |
| 74-83-9 | Bromomethane | 200 | 100 | U | |
| 75-15-0 | Carbon disulfide | 200 | 100 | U | |
| 56-23-5 | Carbon tetrachloride | 200 | 100 | U | |
| 108-90-7 | Chlorobenzene | 200 | 100 | U | |
| 75-00-3 | Chloroethane | 200 | 100 | U | |
| 67-66-3 | Chloroform | 200 | 100 | U | |
| 74-87-3 | Chloromethane | 200 | 100 | U | |
| 156-59-2 | cis-1,2-Dichloroethylene | 200 | 100 | U | |
| 10061-01-5 | cis-1,3-Dichloropropylene | 200 | 100 | U | |
| 110-82-7 | Cyclohexane | 200 | 100 | U | |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**MW-26S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-01 | File ID: | V737645.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/24/19 12:30 | Analyzed: | 12/25/19 13:38 |
| Solids: | | Preparation: | EPA 5030B | Initial/Final: | 25 mL / 25 mL |
| Batch: | BL91325 | Sequence: | Y9L2706 | Calibration: | YJ90021 |
| Instrument: | MSVOA7 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | 200 | 100 | U | |
| 74-95-3 | Dibromomethane | 200 | 100 | U | |
| 75-71-8 | Dichlorodifluoromethane | 200 | 100 | U | |
| 100-41-4 | Ethyl Benzene | 200 | 720 | D | |
| 87-68-3 | Hexachlorobutadiene | 200 | 100 | U | |
| 98-82-8 | Isopropylbenzene | 200 | 100 | U | |
| 79-20-9 | Methyl acetate | 200 | 100 | U | |
| 1634-04-4 | Methyl tert-butyl ether (MTBE) | 200 | 100 | U | |
| 108-87-2 | Methylcyclohexane | 200 | 100 | U | |
| 75-09-2 | Methylene chloride | 200 | 400 | U | |
| 104-51-8 | n-Butylbenzene | 200 | 100 | U | |
| 103-65-1 | n-Propylbenzene | 200 | 100 | U | |
| 95-47-6 | o-Xylene | 200 | 840 | D | |
| 179601-23-1 | p- & m- Xylenes | 200 | 1200 | D | |
| 99-87-6 | p-Isopropyltoluene | 200 | 100 | U | |
| 135-98-8 | sec-Butylbenzene | 200 | 100 | U | |
| 100-42-5 | Styrene | 200 | 100 | U | |
| 75-65-0 | tert-Butyl alcohol (TBA) | 200 | 500 | U | |
| 98-06-6 | tert-Butylbenzene | 200 | 100 | U | |
| 127-18-4 | Tetrachloroethylene | 200 | 100 | U | UJ |
| 108-88-3 | Toluene | 200 | 510 | D | |
| 156-60-5 | trans-1,2-Dichloroethylene | 200 | 100 | U | |
| 10061-02-6 | trans-1,3-Dichloropropylene | 200 | 100 | U | |
| 110-57-6 | trans-1,4-dichloro-2-butene | 200 | 100 | U | |
| 79-01-6 | Trichloroethylene | 200 | 100 | U | |
| 75-69-4 | Trichlorofluoromethane | 200 | 100 | U | |
| 75-01-4 | Vinyl Chloride | 200 | 100 | U | |
| 1330-20-7 | Xylenes, Total | 200 | 2000 | D | |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 1,2-Dichloroethane-d4 | 10.0 | 10.4 | 104 | 69 - 130 | D |
| SURR: Toluene-d8 | 10.0 | 9.81 | 98.1 | 81 - 117 | D |
| SURR: p-Bromofluorobenzene | 10.0 | 10.2 | 102 | 79 - 122 | D |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: Fluorobenzene | 43738 | 5.825 | 53043 | 5.823 | |
| ISTD: Chlorobenzene-d5 | 216957 | 8.852 | 256028 | 8.855 | |
| ISTD: 1,2-Dichlorobenzene-d4 | 76392 | 11.843 | 102086 | 11.843 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**MW-27S**

Laboratory: York Analytical Laboratories, Inc. SDG: 19L0859

Client: J.C. Broderick Project: 19-44493 Queens Library

Matrix: Water Laboratory ID: 19L0859-02 File ID: V816036.D

Sampled: 12/20/19 00:00 Prepared: 12/31/19 07:30 Analyzed: 12/31/19 12:58

Solids: Preparation: EPA 5030B Initial/Final: 25 mL / 25 mL

Batch: BL91544 Sequence: Y9L3129 Calibration: YL90030 Instrument: VOA No. 8

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 5 | 2.5 | U | |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | 2.5 | U | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | 2.5 | U | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 5 | 2.5 | U | |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | 2.5 | U | |
| 75-34-3 | 1,1-Dichloroethane | 5 | 2.5 | U | |
| 75-35-4 | 1,1-Dichloroethylene | 5 | 2.5 | U | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 5 | 10 | U | |
| 96-18-4 | 1,2,3-Trichloropropane | 5 | 2.5 | U | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 5 | 2.5 | U | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 5 | 2.5 | U | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 5 | 10 | U | |
| 106-93-4 | 1,2-Dibromoethane | 5 | 2.5 | U | |
| 95-50-1 | 1,2-Dichlorobenzene | 5 | 2.5 | U | |
| 107-06-2 | 1,2-Dichloroethane | 5 | 2.5 | U | |
| 78-87-5 | 1,2-Dichloropropane | 5 | 2.5 | U | |
| 108-67-8 | 1,3,5-Trimethylbenzene | 5 | 2.5 | U | |
| 541-73-1 | 1,3-Dichlorobenzene | 5 | 2.5 | U | |
| 106-46-7 | 1,4-Dichlorobenzene | 5 | 2.5 | U | |
| 123-91-1 | 1,4-Dioxane | 5 | 200 | U | R |
| 78-93-3 | 2-Butanone | 5 | 10 | U | |
| 591-78-6 | 2-Hexanone | 5 | 2.5 | U | UJ |
| 108-10-1 | 4-Methyl-2-pentanone | 5 | 2.5 | U | UJ |
| 67-64-1 | Acetone | 5 | 10 | U | UJ |
| 107-02-8 | Acrolein | 5 | 10 | U | UJ |
| 107-13-1 | Acrylonitrile | 5 | 2.5 | U | |
| 71-43-2 | Benzene | 5 | 52 | D | |
| 74-97-5 | Bromochloromethane | 5 | 2.5 | U | |
| 75-27-4 | Bromodichloromethane | 5 | 2.5 | U | |
| 75-25-2 | Bromoform | 5 | 2.5 | U | |
| 74-83-9 | Bromomethane | 5 | 2.5 | U | UJ |
| 75-15-0 | Carbon disulfide | 5 | 2.5 | U | |
| 56-23-5 | Carbon tetrachloride | 5 | 2.5 | U | |
| 108-90-7 | Chlorobenzene | 5 | 2.5 | U | |
| 75-00-3 | Chloroethane | 5 | 2.5 | U | |
| 67-66-3 | Chloroform | 5 | 2.5 | U | |
| 74-87-3 | Chloromethane | 5 | 2.5 | U | |
| 156-59-2 | cis-1,2-Dichloroethylene | 5 | 2.5 | U | |
| 10061-01-5 | cis-1,3-Dichloropropylene | 5 | 2.5 | U | |
| 110-82-7 | Cyclohexane | 5 | 2.5 | U | |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**MW-27S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-02 | File ID: | V816036.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/31/19 07:30 | Analyzed: | 12/31/19 12:58 |
| Solids: | | Preparation: | EPA 5030B | Initial/Final: | 25 mL / 25 mL |
| Batch: | BL91544 | Sequence: | Y9L3129 | Calibration: | YL90030 |
| Instrument: | VOA No. 8 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | 5 | 2.5 | U | |
| 74-95-3 | Dibromomethane | 5 | 2.5 | U | |
| 75-71-8 | Dichlorodifluoromethane | 5 | 2.5 | U | UJ |
| 100-41-4 | Ethyl Benzene | 5 | 10 | D | |
| 87-68-3 | Hexachlorobutadiene | 5 | 2.5 | U | |
| 98-82-8 | Isopropylbenzene | 5 | 2.5 | D | |
| 79-20-9 | Methyl acetate | 5 | 2.5 | U | |
| 1634-04-4 | Methyl tert-butyl ether (MTBE) | 5 | 2.5 | U | |
| 108-87-2 | Methylcyclohexane | 5 | 2.5 | U | |
| 75-09-2 | Methylene chloride | 5 | 10 | U | |
| 104-51-8 | n-Butylbenzene | 5 | 2.5 | U | |
| 103-65-1 | n-Propylbenzene | 5 | 2.5 | U | |
| 95-47-6 | o-Xylene | 5 | 2.5 | U | |
| 179601-23-1 | p- & m- Xylenes | 5 | 5.0 | U | |
| 99-87-6 | p-Isopropyltoluene | 5 | 2.5 | U | |
| 135-98-8 | sec-Butylbenzene | 5 | 2.5 | U | |
| 100-42-5 | Styrene | 5 | 2.5 | U | |
| 75-65-0 | tert-Butyl alcohol (TBA) | 5 | 12 | U | R |
| 98-06-6 | tert-Butylbenzene | 5 | 2.5 | U | |
| 127-18-4 | Tetrachloroethylene | 5 | 2.5 | U | UJ |
| 108-88-3 | Toluene | 5 | 2.5 | U | |
| 156-60-5 | trans-1,2-Dichloroethylene | 5 | 2.5 | U | |
| 10061-02-6 | trans-1,3-Dichloropropylene | 5 | 2.5 | U | |
| 110-57-6 | trans-1,4-dichloro-2-butene | 5 | 2.5 | U | |
| 79-01-6 | Trichloroethylene | 5 | 2.5 | U | |
| 75-69-4 | Trichlorofluoromethane | 5 | 2.5 | U | |
| 75-01-4 | Vinyl Chloride | 5 | 2.5 | U | |
| 1330-20-7 | Xylenes, Total | 5 | 7.5 | U | |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 1,2-Dichloroethane-d4 | 10.0 | 9.34 | 93.4 | 69 - 130 | |
| SURR: Toluene-d8 | 10.0 | 9.67 | 96.7 | 81 - 117 | |
| SURR: p-Bromofluorobenzene | 10.0 | 9.83 | 98.3 | 79 - 122 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: Fluorobenzene | 78101 | 5.801 | 76556 | 5.808 | |
| ISTD: Chlorobenzene-d5 | 264486 | 8.831 | 257225 | 8.827 | |
| ISTD: 1,2-Dichlorobenzene-d4 | 94960 | 11.815 | 88553 | 11.811 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**Field Blank**

Laboratory: York Analytical Laboratories, Inc. SDG: 19L0859

Client: J.C. Broderick Project: 19-44493 Queens Library

Matrix: Water Laboratory ID: 19L0859-03 File ID: V737647.D

Sampled: 12/20/19 00:00 Prepared: 12/24/19 12:30 Analyzed: 12/25/19 14:37

Solids: Preparation: EPA 5030B Initial/Final: 25 mL / 25 mL

Batch: BL91325 Sequence: Y9L2706 Calibration: YJ90021 Instrument: MSVOA7

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | 0.50 | U | |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | 0.50 | U | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | 0.50 | U | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 1 | 0.50 | U | |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | 0.50 | U | |
| 75-34-3 | 1,1-Dichloroethane | 1 | 0.50 | U | |
| 75-35-4 | 1,1-Dichloroethylene | 1 | 0.50 | U | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1 | 0.50 | U | UJ |
| 96-18-4 | 1,2,3-Trichloropropane | 1 | 0.50 | U | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 0.50 | U | UJ |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.50 | U | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1 | 0.50 | U | |
| 106-93-4 | 1,2-Dibromoethane | 1 | 0.50 | U | |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 0.50 | U | |
| 107-06-2 | 1,2-Dichloroethane | 1 | 0.50 | U | |
| 78-87-5 | 1,2-Dichloropropane | 1 | 0.50 | U | UJ |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | 0.50 | U | |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 0.50 | U | |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 0.50 | U | |
| 123-91-1 | 1,4-Dioxane | 1 | 40 | U | R |
| 78-93-3 | 2-Butanone | 1 | 2.0 | U | |
| 591-78-6 | 2-Hexanone | 1 | 0.50 | U | |
| 108-10-1 | 4-Methyl-2-pentanone | 1 | 0.50 | U | |
| 67-64-1 | Acetone | 1 | 2.0 | U | |
| 107-02-8 | Acrolein | 1 | 2.0 | U | UJ |
| 107-13-1 | Acrylonitrile | 1 | 0.50 | U | |
| 71-43-2 | Benzene | 1 | 0.50 | U | |
| 74-97-5 | Bromochloromethane | 1 | 0.50 | U | |
| 75-27-4 | Bromodichloromethane | 1 | 0.50 | U | |
| 75-25-2 | Bromoform | 1 | 0.50 | U | |
| 74-83-9 | Bromomethane | 1 | 0.50 | U | UJ |
| 75-15-0 | Carbon disulfide | 1 | 0.50 | U | UJ |
| 56-23-5 | Carbon tetrachloride | 1 | 0.50 | U | |
| 108-90-7 | Chlorobenzene | 1 | 0.50 | U | |
| 75-00-3 | Chloroethane | 1 | 0.50 | U | |
| 67-66-3 | Chloroform | 1 | 0.50 | U | |
| 74-87-3 | Chloromethane | 1 | 0.50 | U | UJ |
| 156-59-2 | cis-1,2-Dichloroethylene | 1 | 0.50 | U | |
| 10061-01-5 | cis-1,3-Dichloropropylene | 1 | 0.50 | U | |
| 110-82-7 | Cyclohexane | 1 | 0.50 | U | UJ |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**Field Blank**

Laboratory: York Analytical Laboratories, Inc. SDG: 19L0859

Client: J.C. Broderick Project: 19-44493 Queens Library

Matrix: Water Laboratory ID: 19L0859-03 File ID: V737647.D

Sampled: 12/20/19 00:00 Prepared: 12/24/19 12:30 Analyzed: 12/25/19 14:37

Solids: Preparation: EPA 5030B Initial/Final: 25 mL / 25 mL

Batch: BL91325 Sequence: Y9L2706 Calibration: YJ90021 Instrument: MSVOA7

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | 1 | 0.50 | U | |
| 74-95-3 | Dibromomethane | 1 | 0.50 | U | |
| 75-71-8 | Dichlorodifluoromethane | 1 | 0.50 | U | |
| 100-41-4 | Ethyl Benzene | 1 | 0.50 | U | |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.50 | U | |
| 98-82-8 | Isopropylbenzene | 1 | 0.50 | U | |
| 79-20-9 | Methyl acetate | 1 | 0.50 | U | UJ |
| 1634-04-4 | Methyl tert-butyl ether (MTBE) | 1 | 0.50 | U | |
| 108-87-2 | Methylcyclohexane | 1 | 0.50 | U | UJ |
| 75-09-2 | Methylene chloride | 1 | 5.0 | | |
| 104-51-8 | n-Butylbenzene | 1 | 0.50 | U | |
| 103-65-1 | n-Propylbenzene | 1 | 0.50 | U | |
| 95-47-6 | o-Xylene | 1 | 0.50 | U | |
| 179601-23-1 | p- & m- Xylenes | 1 | 1.0 | U | |
| 99-87-6 | p-Isopropyltoluene | 1 | 0.50 | U | |
| 135-98-8 | sec-Butylbenzene | 1 | 0.50 | U | |
| 100-42-5 | Styrene | 1 | 0.50 | U | |
| 75-65-0 | tert-Butyl alcohol (TBA) | 1 | 2.5 | U | |
| 98-06-6 | tert-Butylbenzene | 1 | 0.50 | U | |
| 127-18-4 | Tetrachloroethylene | 1 | 0.50 | U | UJ |
| 108-88-3 | Toluene | 1 | 0.50 | U | |
| 156-60-5 | trans-1,2-Dichloroethylene | 1 | 0.50 | U | |
| 10061-02-6 | trans-1,3-Dichloropropylene | 1 | 0.50 | U | |
| 110-57-6 | trans-1,4-dichloro-2-butene | 1 | 0.50 | U | |
| 79-01-6 | Trichloroethylene | 1 | 0.50 | U | |
| 75-69-4 | Trichlorofluoromethane | 1 | 0.50 | U | |
| 75-01-4 | Vinyl Chloride | 1 | 0.50 | U | |
| 1330-20-7 | Xylenes, Total | 1 | 1.5 | U | |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 1,2-Dichloroethane-d4 | 10.0 | 10.0 | 100 | 69 - 130 | |
| SURR: Toluene-d8 | 10.0 | 9.75 | 97.5 | 81 - 117 | |
| SURR: p-Bromofluorobenzene | 10.0 | 10.8 | 108 | 79 - 122 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: Fluorobenzene | 43353 | 5.825 | 53043 | 5.823 | |
| ISTD: Chlorobenzene-d5 | 216377 | 8.855 | 256028 | 8.855 | |
| ISTD: 1,2-Dichlorobenzene-d4 | 69650 | 11.841 | 102086 | 11.843 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**Trip Blank**

Laboratory: York Analytical Laboratories, Inc. SDG: 19L0859

Client: J.C. Broderick Project: 19-44493 Queens Library

Matrix: Water Laboratory ID: 19L0859-04 File ID: V737648.D

Sampled: 12/20/19 00:00 Prepared: 12/24/19 12:30 Analyzed: 12/25/19 15:07

Solids: Preparation: EPA 5030B Initial/Final: 25 mL / 25 mL

Batch: BL91325 Sequence: Y9L2706 Calibration: YJ90021 Instrument: MSVOA7

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | 0.50 | U | |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | 0.50 | U | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | 0.50 | U | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 1 | 0.50 | U | |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | 0.50 | U | |
| 75-34-3 | 1,1-Dichloroethane | 1 | 0.50 | U | |
| 75-35-4 | 1,1-Dichloroethylene | 1 | 0.50 | U | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1 | 0.50 | U | UJ |
| 96-18-4 | 1,2,3-Trichloropropane | 1 | 0.50 | U | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 0.50 | U | UJ |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.50 | U | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1 | 0.50 | U | |
| 106-93-4 | 1,2-Dibromoethane | 1 | 0.50 | U | |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 0.50 | U | |
| 107-06-2 | 1,2-Dichloroethane | 1 | 0.50 | U | |
| 78-87-5 | 1,2-Dichloropropane | 1 | 0.50 | U | UJ |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | 0.50 | U | |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 0.50 | U | |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 0.50 | U | |
| 123-91-1 | 1,4-Dioxane | 1 | 40 | U | R |
| 78-93-3 | 2-Butanone | 1 | 2.0 | U | |
| 591-78-6 | 2-Hexanone | 1 | 0.50 | U | |
| 108-10-1 | 4-Methyl-2-pentanone | 1 | 0.50 | U | |
| 67-64-1 | Acetone | 1 | 3.7 | | |
| 107-02-8 | Acrolein | 1 | 2.0 | U | UJ |
| 107-13-1 | Acrylonitrile | 1 | 0.50 | U | |
| 71-43-2 | Benzene | 1 | 0.50 | U | |
| 74-97-5 | Bromochloromethane | 1 | 0.50 | U | |
| 75-27-4 | Bromodichloromethane | 1 | 0.50 | U | |
| 75-25-2 | Bromoform | 1 | 0.50 | U | |
| 74-83-9 | Bromomethane | 1 | 0.50 | U | UJ |
| 75-15-0 | Carbon disulfide | 1 | 0.50 | U | UJ |
| 56-23-5 | Carbon tetrachloride | 1 | 0.50 | U | |
| 108-90-7 | Chlorobenzene | 1 | 0.50 | U | |
| 75-00-3 | Chloroethane | 1 | 0.50 | U | |
| 67-66-3 | Chloroform | 1 | 0.50 | U | |
| 74-87-3 | Chloromethane | 1 | 0.50 | U | UJ |
| 156-59-2 | cis-1,2-Dichloroethylene | 1 | 0.50 | U | |
| 10061-01-5 | cis-1,3-Dichloropropylene | 1 | 0.50 | U | |
| 110-82-7 | Cyclohexane | 1 | 0.50 | U | |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**Trip Blank**

Laboratory: York Analytical Laboratories, Inc. SDG: 19L0859

Client: J.C. Broderick Project: 19-44493 Queens Library

Matrix: Water Laboratory ID: 19L0859-04 File ID: V737648.D

Sampled: 12/20/19 00:00 Prepared: 12/24/19 12:30 Analyzed: 12/25/19 15:07

Solids: Preparation: EPA 5030B Initial/Final: 25 mL / 25 mL

Batch: BL91325 Sequence: Y9L2706 Calibration: YJ90021 Instrument: MSVOA7

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | 1 | 0.50 | U | |
| 74-95-3 | Dibromomethane | 1 | 0.50 | U | |
| 75-71-8 | Dichlorodifluoromethane | 1 | 0.50 | U | |
| 100-41-4 | Ethyl Benzene | 1 | 0.50 | U | |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.50 | U | |
| 98-82-8 | Isopropylbenzene | 1 | 0.50 | U | |
| 79-20-9 | Methyl acetate | 1 | 0.50 | U | UJ |
| 1634-04-4 | Methyl tert-butyl ether (MTBE) | 1 | 0.50 | U | |
| 108-87-2 | Methylcyclohexane | 1 | 0.50 | U | UJ |
| 75-09-2 | Methylene chloride | 1 | 2.0 | U | |
| 104-51-8 | n-Butylbenzene | 1 | 0.50 | U | |
| 103-65-1 | n-Propylbenzene | 1 | 0.50 | U | |
| 95-47-6 | o-Xylene | 1 | 0.50 | U | |
| 179601-23-1 | p- & m- Xylenes | 1 | 0.53 | J | |
| 99-87-6 | p-Isopropyltoluene | 1 | 0.50 | U | |
| 135-98-8 | sec-Butylbenzene | 1 | 0.50 | U | |
| 100-42-5 | Styrene | 1 | 0.50 | U | |
| 75-65-0 | tert-Butyl alcohol (TBA) | 1 | 2.5 | U | |
| 98-06-6 | tert-Butylbenzene | 1 | 0.50 | U | |
| 127-18-4 | Tetrachloroethylene | 1 | 0.50 | U | UJ |
| 108-88-3 | Toluene | 1 | 0.50 | U | |
| 156-60-5 | trans-1,2-Dichloroethylene | 1 | 0.50 | U | |
| 10061-02-6 | trans-1,3-Dichloropropylene | 1 | 0.50 | U | |
| 110-57-6 | trans-1,4-dichloro-2-butene | 1 | 0.50 | U | |
| 79-01-6 | Trichloroethylene | 1 | 0.50 | U | |
| 75-69-4 | Trichlorofluoromethane | 1 | 0.50 | U | |
| 75-01-4 | Vinyl Chloride | 1 | 0.50 | U | |
| 1330-20-7 | Xylenes, Total | 1 | 1.5 | U | |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 1,2-Dichloroethane-d4 | 10.0 | 9.38 | 93.8 | 69 - 130 | |
| SURR: Toluene-d8 | 10.0 | 9.94 | 99.4 | 81 - 117 | |
| SURR: p-Bromofluorobenzene | 10.0 | 10.8 | 108 | 79 - 122 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: Fluorobenzene | 46086 | 5.822 | 53043 | 5.823 | |
| ISTD: Chlorobenzene-d5 | 217373 | 8.855 | 256028 | 8.855 | |
| ISTD: 1,2-Dichlorobenzene-d4 | 70512 | 11.846 | 102086 | 11.843 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D**

**MW-26S**

Laboratory: York Analytical Laboratories, Inc. SDG: 19L0859

Client: J.C. Broderick Project: 19-44493 Queens Library

Matrix: Water Laboratory ID: 19L0859-01 File ID: SV628153.D

Sampled: 12/20/19 00:00 Prepared: 12/26/19 13:55 Analyzed: 12/27/19 12:21

Solids: Preparation: EPA 3510C Initial/Final: 975 mL / 1 mL

Batch: BL91416 Sequence: Y9L2715 Calibration: YL90003 Instrument: BNA#6

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 1 | 5.13 | U | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 5.13 | U | |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 5.13 | U | |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | 1 | 5.13 | U | |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 5.13 | U | |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 5.13 | U | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 1 | 5.13 | U | |
| 95-95-4 | 2,4,5-Trichlorophenol | 1 | 5.13 | U | |
| 88-06-2 | 2,4,6-Trichlorophenol | 1 | 5.13 | U | |
| 120-83-2 | 2,4-Dichlorophenol | 1 | 5.13 | U | |
| 51-28-5 | 2,4-Dinitrophenol | 1 | 5.13 | U | UJ |
| 121-14-2 | 2,4-Dinitrotoluene | 1 | 5.13 | U | |
| 606-20-2 | 2,6-Dinitrotoluene | 1 | 5.13 | U | |
| 91-58-7 | 2-Chloronaphthalene | 1 | 5.13 | U | |
| 95-57-8 | 2-Chlorophenol | 1 | 5.13 | U | |
| 88-74-4 | 2-Nitroaniline | 1 | 5.13 | U | |
| 88-75-5 | 2-Nitrophenol | 1 | 5.13 | U | |
| 91-94-1 | 3,3-Dichlorobenzidine | 1 | 5.13 | U | |
| 99-09-2 | 3-Nitroaniline | 1 | 5.13 | U | |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1 | 5.13 | U | UJ |
| 101-55-3 | 4-Bromophenyl phenyl ether | 1 | 5.13 | U | |
| 59-50-7 | 4-Chloro-3-methylphenol | 1 | 5.13 | U | |
| 106-47-8 | 4-Chloroaniline | 1 | 5.13 | U | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 1 | 5.13 | U | |
| 100-01-6 | 4-Nitroaniline | 1 | 5.13 | U | |
| 100-02-7 | 4-Nitrophenol | 1 | 5.13 | U | |
| 208-96-8 | Acenaphthylene | 1 | 12.8 | | |
| 98-86-2 | Acetophenone | 1 | 5.13 | U | |
| 98-55-5 | Alpha Terpineol | 1 | 10.3 | U | |
| 62-53-3 | Aniline | 1 | 39.1 | | J |
| 120-12-7 | Anthracene | 1 | 16.6 | | |
| 1912-24-9 | Atrazine | 1 | 5.13 | U | |
| 100-52-7 | Benzaldehyde | 1 | 5.13 | U | UJ |
| 92-87-5 | Benzidine | 1 | 5.13 | U | UJ |
| 56-55-3 | Benzo(a)anthracene | 1 | 5.13 | U | |
| 50-32-8 | Benzo(a)pyrene | 1 | 5.13 | U | |
| 205-99-2 | Benzo(b)fluoranthene | 1 | 5.13 | U | |
| 191-24-2 | Benzo(g,h,i)perylene | 1 | 5.13 | U | |
| 207-08-9 | Benzo(k)fluoranthene | 1 | 5.13 | U | |
| 65-85-0 | Benzoic acid | 1 | 51.3 | U | R |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D**

**MW-26S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-01 | File ID: | SV628153.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/27/19 12:21 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |
| Batch: | BL91416 | Sequence: | Y9L2715 | Calibration: | YL90003 |
| Instrument: | BNA#6 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q |
|---|---|---|---|---|
| 100-51-6 | Benzyl alcohol | 1 | 5.13 | U |
| 85-68-7 | Benzyl butyl phthalate | 1 | 5.13 | U |
| 111-91-1 | Bis(2-chloroethoxy)methane | 1 | 5.13 | U |
| 111-44-4 | Bis(2-chloroethyl)ether | 1 | 5.13 | U |
| 108-60-1 | Bis(2-chloroisopropyl)ether | 1 | 5.13 | U |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 1 | 5.13 | U |
| 105-60-2 | Caprolactam | 1 | 5.13 | U |
| 218-01-9 | Chrysene | 1 | 5.13 | U |
| 53-70-3 | Dibenzo(a,h)anthracene | 1 | 5.13 | U |
| 84-66-2 | Diethyl phthalate | 1 | 5.13 | U |
| 131-11-3 | Dimethyl phthalate | 1 | 5.13 | U |
| 84-74-2 | Di-n-butyl phthalate | 1 | 5.13 | U |
| 117-84-0 | Di-n-octyl phthalate | 1 | 5.13 | U |
| 206-44-0 | Fluoranthene | 1 | 14.1 | |
| 118-74-1 | Hexachlorobenzene | 1 | 5.13 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | 5.13 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 1 | 10.3 | U |
| 67-72-1 | Hexachloroethane | 1 | 2.56 | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 1 | 5.13 | U |
| 78-59-1 | Isophorone | 1 | 5.13 | U |
| 98-95-3 | Nitrobenzene | 1 | 5.13 | U |
| 62-75-9 | N-Nitrosodimethylamine | 1 | 5.13 | U |
| 621-64-7 | N-nitroso-di-n-propylamine | 1 | 5.13 | U |
| 86-30-6 | N-Nitrosodiphenylamine | 1 | 5.13 | U |
| 87-86-5 | Pentachlorophenol | 1 | 5.13 | U |
| 108-95-2 | Phenol | 1 | 27.2 | |
| 129-00-0 | Pyrene | 1 | 8.36 | |

UJ

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 2-Fluorophenol | 51.3 | 31.7 | 61.9 | 19.7 - 63.1 | |
| SURR: Phenol-d5 | 51.3 | 8.88 | 17.3 | 10.1 - 41.7 | |
| SURR: Nitrobenzene-d5 | 25.6 | 23.2 | 90.4 | 50.2 - 113 | |
| SURR: 2-Fluorobiphenyl | 25.6 | 18.1 | 70.7 | 39.9 - 105 | |
| SURR: 2,4,6-Tribromophenol | 51.3 | 60.2 | 117 | 39.3 - 151 | |
| SURR: Terphenyl-d14 | 25.6 | 17.6 | 68.8 | 30.7 - 106 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: 1,4-Dichlorobenzene-d4 | 900653 | 4.88 | 826223 | 4.87 | |
| ISTD: Naphthalene-d8 | 3004322 | 5.84 | 3591473 | 5.81 | |
| ISTD: Acenaphthene-d10 | 2408749 | 7.33 | 2128089 | 7.32 | |
| ISTD: Phenanthrene-d10 | 4714277 | 9.3 | 4330575 | 9.29 | |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D**

**MW-26S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-01 | File ID: | SV628153.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/27/19 12:21 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |
| Batch: | BL91416 | Sequence: | Y9L2715 | Calibration: | YL90003 |
| Instrument: | BNA#6 | | | | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: Chrysene-d12 | 5624707 | 14.71 | 4514377 | 14.69 | |
| ISTD: Perylene-d12 | 6849548 | 17.82 | 5918169 | 17.8 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D**

**MW-26S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-01RE2 | File ID: | SV628178.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/30/19 12:42 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |
| Batch: | BL91416 | Sequence: | Y9L3025 | Calibration: | YL90003 |
| Instrument: | BNA#6 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q |
|---|---|---|---|---|
| 91-20-3 | Naphthalene | 500 | 9820 | D |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 2-Fluorophenol | 51.3 | 0.00 | | 19.7 - 63.1 | D |
| SURR: Phenol-d5 | 51.3 | 0.00 | | 10.1 - 41.7 | D |
| SURR: Nitrobenzene-d5 | 25.6 | 0.00 | | 50.2 - 113 | D |
| SURR: 2-Fluorobiphenyl | 25.6 | 0.00 | | 39.9 - 105 | D |
| SURR: 2,4,6-Tribromophenol | 51.3 | 0.00 | | 39.3 - 151 | D |
| SURR: Terphenyl-d14 | 25.6 | 15.4 | 60.0 | 30.7 - 106 | D |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: 1,4-Dichlorobenzene-d4 | 805749 | 4.88 | 818054 | 4.88 | |
| ISTD: Naphthalene-d8 | 3174076 | 5.82 | 3422400 | 5.82 | |
| ISTD: Acenaphthene-d10 | 1929471 | 7.34 | 2018332 | 7.33 | |
| ISTD: Phenanthrene-d10 | 3789179 | 9.3 | 4015979 | 9.3 | |
| ISTD: Chrysene-d12 | 3740948 | 14.7 | 4178261 | 14.7 | |
| ISTD: Perylene-d12 | 4500623 | 17.81 | 5418556 | 17.81 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D**

**MW-27S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-02 | File ID: | SV628154.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/27/19 12:53 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |
| Batch: | BL91416 | Sequence: | Y9L2715 | Calibration: | YL90003 |
| Instrument: | BNA#6 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 92-52-4 | 1,1-Biphenyl | 1 | 5.13 | U | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 1 | 5.13 | U | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 5.13 | U | |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 5.13 | U | |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | 1 | 5.13 | U | |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 5.13 | U | |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 5.13 | U | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 1 | 5.13 | U | |
| 95-95-4 | 2,4,5-Trichlorophenol | 1 | 5.13 | U | |
| 88-06-2 | 2,4,6-Trichlorophenol | 1 | 5.13 | U | |
| 120-83-2 | 2,4-Dichlorophenol | 1 | 5.13 | U | |
| 105-67-9 | 2,4-Dimethylphenol | 1 | 5.13 | U | |
| 51-28-5 | 2,4-Dinitrophenol | 1 | 5.13 | U | UJ |
| 121-14-2 | 2,4-Dinitrotoluene | 1 | 5.13 | U | |
| 606-20-2 | 2,6-Dinitrotoluene | 1 | 5.13 | U | |
| 91-58-7 | 2-Chloronaphthalene | 1 | 5.13 | U | |
| 95-57-8 | 2-Chlorophenol | 1 | 5.13 | U | |
| 91-57-6 | 2-Methylnaphthalene | 1 | 5.13 | U | |
| 95-48-7 | 2-Methylphenol | 1 | 5.13 | U | |
| 88-74-4 | 2-Nitroaniline | 1 | 5.13 | U | |
| 88-75-5 | 2-Nitrophenol | 1 | 5.13 | U | |
| 65794-96-9 | 3- & 4-Methylphenols | 1 | 5.13 | U | |
| 91-94-1 | 3,3-Dichlorobenzidine | 1 | 5.13 | U | |
| 99-09-2 | 3-Nitroaniline | 1 | 5.13 | U | |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1 | 5.13 | U | UJ |
| 101-55-3 | 4-Bromophenyl phenyl ether | 1 | 5.13 | U | |
| 59-50-7 | 4-Chloro-3-methylphenol | 1 | 5.13 | U | |
| 106-47-8 | 4-Chloroaniline | 1 | 5.13 | U | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 1 | 5.13 | U | |
| 100-01-6 | 4-Nitroaniline | 1 | 5.13 | U | |
| 100-02-7 | 4-Nitrophenol | 1 | 5.13 | U | |
| 98-86-2 | Acetophenone | 1 | 5.13 | U | |
| 98-55-5 | Alpha Terpineol | 1 | 10.3 | U | |
| 62-53-3 | Aniline | 1 | 5.13 | U | UJ |
| 100-52-7 | Benzaldehyde | 1 | 5.13 | U | UJ |
| 92-87-5 | Benzidine | 1 | 5.13 | U | UJ |
| 65-85-0 | Benzoic acid | 1 | 5.13 | U | R |
| 100-51-6 | Benzyl alcohol | 1 | 5.13 | U | |
| 85-68-7 | Benzyl butyl phthalate | 1 | 5.13 | U | |
| 111-91-1 | Bis(2-chloroethoxy)methane | 1 | 5.13 | U | |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D**

**MW-27S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-02 | File ID: | SV628154.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/27/19 12:53 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |

Batch: BL91416 Sequence: Y9L2715 Calibration: YL90003 Instrument: BNA#6

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q |
|---|---|---|---|---|
| 111-44-4 | Bis(2-chloroethyl)ether | 1 | 5.13 | U |
| 108-60-1 | Bis(2-chloroisopropyl)ether | 1 | 5.13 | U |
| 105-60-2 | Caprolactam | 1 | 5.13 | U |
| 86-74-8 | Carbazole | 1 | 4.47 | J |
| 132-64-9 | Dibenzofuran | 1 | 4.33 | J |
| 84-66-2 | Diethyl phthalate | 1 | 5.13 | U |
| 131-11-3 | Dimethyl phthalate | 1 | 5.13 | U |
| 84-74-2 | Di-n-butyl phthalate | 1 | 5.13 | U |
| 117-84-0 | Di-n-octyl phthalate | 1 | 5.13 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 1 | 10.3 | U |
| 78-59-1 | Isophorone | 1 | 5.13 | U |
| 621-64-7 | N-nitroso-di-n-propylamine | 1 | 5.13 | U |
| 86-30-6 | N-Nitrosodiphenylamine | 1 | 5.13 | U |
| 108-95-2 | Phenol | 1 | 5.13 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 2-Fluorophenol | 51.3 | 19.7 | 38.4 | 19.7 - 63.1 | |
| SURR: Phenol-d5 | 51.3 | 11.6 | 22.7 | 10.1 - 41.7 | |
| SURR: Nitrobenzene-d5 | 25.6 | 20.6 | 80.3 | 50.2 - 113 | |
| SURR: 2-Fluorobiphenyl | 25.6 | 19.9 | 77.6 | 39.9 - 105 | |
| SURR: 2,4,6-Tribromophenol | 51.3 | 51.4 | 100 | 39.3 - 151 | |
| SURR: Terphenyl-d14 | 25.6 | 17.7 | 68.9 | 30.7 - 106 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: 1,4-Dichlorobenzene-d4 | 952352 | 4.87 | 826223 | 4.87 | |
| ISTD: Naphthalene-d8 | 3827714 | 5.81 | 3591473 | 5.81 | |
| ISTD: Acenaphthene-d10 | 2338896 | 7.33 | 2128089 | 7.32 | |
| ISTD: Phenanthrene-d10 | 4561303 | 9.29 | 4330575 | 9.29 | |
| ISTD: Chrysene-d12 | 5035216 | 14.69 | 4514377 | 14.69 | |
| ISTD: Perylene-d12 | 6548298 | 17.8 | 5918169 | 17.8 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D SIM**

**MW-27S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-02 | File ID: | SV520256.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/27/19 11:11 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |
| Batch: | BL91416 | Sequence: | Y9L2718 | Calibration: | YI90018 |
| Instrument: | BNA #5 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q |
|---|---|---|---|---|
| 208-96-8 | Acenaphthylene | 1 | 0.667 | |
| 120-12-7 | Anthracene | 1 | 1.37 | |
| 1912-24-9 | Atrazine | 1 | 0.513 | U |
| 56-55-3 | Benzo(a)anthracene | 1 | 0.462 | |
| 50-32-8 | Benzo(a)pyrene | 1 | 0.287 | |
| 205-99-2 | Benzo(b)fluoranthene | 1 | 0.226 | |
| 191-24-2 | Benzo(g,h,i)perylene | 1 | 0.133 | |
| 207-08-9 | Benzo(k)fluoranthene | 1 | 0.195 | |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 1 | 0.513 | U |
| 218-01-9 | Chrysene | 1 | 0.410 | |
| 53-70-3 | Dibenzo(a,h)anthracene | 1 | 0.0513 | |
| 206-44-0 | Fluoranthene | 1 | 2.15 | |
| 86-73-7 | Fluorene | 1 | 3.64 | |
| 118-74-1 | Hexachlorobenzene | 1 | 0.0205 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.513 | U |
| 67-72-1 | Hexachloroethane | 1 | 0.513 | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 1 | 0.113 | |
| 91-20-3 | Naphthalene | 1 | 3.95 | |
| 98-95-3 | Nitrobenzene | 1 | 0.256 | U |
| 62-75-9 | N-Nitrosodimethylamine | 1 | 0.513 | U |
| 87-86-5 | Pentachlorophenol | 1 | 0.256 | U |
| 85-01-8 | Phenanthrene | 1 | 4.37 | |
| 129-00-0 | Pyrene | 1 | 1.78 | |

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| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: 1,4-Dichlorobenzene-d4 | 3667574 | 7.93 | 6205301 | 7.92 | |
| ISTD: Naphthalene-d8 | 8588293 | 9.53 | 13961060 | 9.53 | |
| ISTD: Acenaphthene-d10 | 5393033 | 11.95 | 7890427 | 11.94 | |
| ISTD: Phenanthrene-d10 | 10365080 | 14.04 | 14193320 | 14.03 | |
| ISTD: Chrysene-d12 | 9291916 | 17.84 | 11532830 | 17.82 | |
| ISTD: Perylene-d12 | 10449450 | 19.76 | 13205230 | 19.74 | |

* Values outside of QC limits

**FORM I**

# ORGANIC ANALYSIS DATA SHEET

## EPA 8270D SIM

**MW-27S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-02RE1 | File ID: | SV520261.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/27/19 14:30 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |
| Batch: | BL91416 | Sequence: | Y9L2718 | Calibration: | YI90018 |
| Instrument: | BNA #5 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q |
|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 2 | 7.51 | D |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: 1,4-Dichlorobenzene-d4 | 4065619 | 7.92 | 6205301 | 7.92 | |
| ISTD: Naphthalene-d8 | 9178957 | 9.53 | 13961060 | 9.53 | |
| ISTD: Acenaphthene-d10 | 5299772 | 11.94 | 7890427 | 11.94 | |
| ISTD: Phenanthrene-d10 | 9974933 | 14.03 | 14193320 | 14.03 | |
| ISTD: Chrysene-d12 | 8475719 | 17.83 | 11532830 | 17.82 | |
| ISTD: Perylene-d12 | 9414902 | 19.75 | 13205230 | 19.74 | |

* Values outside of QC limits

# APPENDIX C

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

# Field Chain-of-Custody Record

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

YORK Project No. 19L0859



| YOUR Information | Report To: | Invoice To: | YOUR Project Number | Turn-Around Time |
|---|---|---|---|---|
| Company: J.C. BROADRICK & ASSOCIATES, INC. | Company: JCB | Company: JCB | 19-44493 | RUSH - Next Day |
| Address: 1775 EXPRESSWAY DR. N HAUPPAUGE, NY 11788 | Address: | Address: | YOUR Project Name: QUEENS LIBRARY | RUSH - Two Day |
| Phone: 631-584-5492 | Phone: | Phone: | | RUSH - Three Day |
| Contact: S. MULLER | Contact: | Contact: | | RUSH - Four Day |
| E-mail: SMULLER@JCBROADRICK.COM | E-mail: | E-mail: | YOUR PO#: | Standard (5-7 Day) X |

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

Samples Collected by: (print your name above and sign below)
STEVEN MULLER

| Matrix Codes | Samples From | Report / EDD Type (circle selections) | | | YORK Reg. Comp. |
|---|---|---|---|---|---|
| S - soil / solid | New York X | Summary Report | CT RCP | Standard Excel EDD | Compared to the following Regulation(s): (please fill in) |
| GW - groundwater | New Jersey | QA Report | CT RCP DQA/DUE | EQuIS (Standard) | |
| DW - drinking water | Connecticut | NY ASP A Package | NJDEP Reduced Deliverables | NYSDEC EQuIS (circled) | |
| WW - wastewater | Pennsylvania | NY ASP B Package (circled) | | NJDEP SRP HazSite | |
| O - Oil ⋮ Other | Other | | NJDKQP | Other: | |

| Sample Identification | Sample Matrix | Date/Time Sampled | Analysis Requested | Container Description |
|---|---|---|---|---|
| MW-26S | GW | 12/20/19 | TCL VOC, TCL SVOC, TPHC DRO, | 4-HCL VOAs |
| | | | TPHC GRO, TOTAL IRON, ALKALINITY | 3-1 AMB, 2-250 |
| | | | SULFATE | 1-HNO3 250 |
| MW-27S | GW | 12/20/19 | " " " " | " " |
| | | | | |
| FIELD BLANK | | | TCL VOC | 2-HCL VOAs |
| TRIP BLANK | | | TCL VOC | 2-HCL VOAs |
| | | | | |
| | | | | |
| | | | | |

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**Comments:**

**Preservation:** (check all that apply)
HCl X MeOH ___ HNO3 X H2SO4 ___ NaOH X ZnAc ___
Ascorbic Acid ___ Other: 1615, 1

**Special Instruction**
Field Filtered ___
Lab to Filter ___

| Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time | Samples Relinquished by / Company | Date/Time |
|---|---|---|---|---|---|
| JCB | 12/20/19 10:30 | York | 12-23-19 10:30 | York | 12-23-19 10:30 |
| Samples Received by / Company | Date/Time | Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time |
| York | 12/23/19 1630 | York | 12/23/19 1838 | VINNI / YORK | 12-23-19 18:38 |
| Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time | Samples Received in LAB by | Date/Time / Temp. Received at Lab |
| VINNI / YORK | 12-23-19 2020 M-P ~~18:15~~ | | | TC | 12/23/19 2021 / 4.8 Degrees C |

# Appendix 3
# Laboratory Analysis Report

# Technical Report

prepared for:

**J.C. Broderick**
1775 North Express Drive
Hauppauge NY, 11788
**Attention: Steven Muller**

Report Date: 01/02/2020
**Client Project ID: 19-44493 Queens Library**
York Project (SDG) No.: 19L0859

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

120 RESEARCH DRIVE STRATFORD, CT 06615 ■ 132-02 89th AVENUE RICHMOND HILL, NY 11418
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Report Date: 01/02/2020
Client Project ID: 19-44493 Queens Library
York Project (SDG) No.: 19L0859

**J.C. Broderick**
1775 North Express Drive
Hauppauge NY, 11788
Attention: Steven Muller

## Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on December 23, 2019 and listed below. The project was identified as your project: **19-44493 Queens Library**.

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

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

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

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

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

| York Sample ID | Client Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| 19L0859-01 | MW-26S | Water | 12/20/2019 | 12/23/2019 |
| 19L0859-02 | MW-27S | Water | 12/20/2019 | 12/23/2019 |
| 19L0859-03 | Field Blank | Water | 12/20/2019 | 12/23/2019 |
| 19L0859-04 | Trip Blank | Water | 12/20/2019 | 12/23/2019 |

## General Notes for York Project (SDG) No.: 19L0859

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

**Approved By:** 

**Date:** 01/02/2020

Benjamin Gulizia
Laboratory Director

## Sample Information

**Client Sample ID:** **MW-26S** **York Sample ID:** **19L0859-01**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### Volatile Organics, 8260 - Comprehensive

**Log-in Notes:**

**Sample Notes:** Rep-04

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 75-34-3 | 1,1-Dichloroethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 75-35-4 | 1,1-Dichloroethylene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 96-18-4 | 1,2,3-Trichloropropane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 95-63-6 | **1,2,4-Trimethylbenzene** | **280** | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 106-93-4 | 1,2-Dibromoethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 107-06-2 | 1,2-Dichloroethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 78-87-5 | 1,2-Dichloropropane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 108-67-8 | **1,3,5-Trimethylbenzene** | **96** | J | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 123-91-1 | 1,4-Dioxane | ND | | ug/L | 8000 | 8000 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 78-93-3 | 2-Butanone | ND | | ug/L | 40 | 400 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 591-78-6 | 2-Hexanone | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 13:38<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |

## Sample Information

**Client Sample ID:** MW-26S

**York Sample ID:** 19L0859-01

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### Volatile Organics, 8260 - Comprehensive

**Log-in Notes:**

**Sample Notes:** Rep-04

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 67-64-1 | Acetone | ND | | ug/L | 200 | 400 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 107-02-8 | Acrolein | ND | HT-01 | ug/L | 40 | 400 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 107-13-1 | Acrylonitrile | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 71-43-2 | **Benzene** | **3400** | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 74-97-5 | Bromochloromethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 75-27-4 | Bromodichloromethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 75-25-2 | Bromoform | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 74-83-9 | Bromomethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 75-15-0 | Carbon disulfide | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 56-23-5 | Carbon tetrachloride | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 108-90-7 | Chlorobenzene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 75-00-3 | Chloroethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 67-66-3 | Chloroform | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 74-87-3 | Chloromethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 10061-01-5 | cis-1,3-Dichloropropylene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 110-82-7 | Cyclohexane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 124-48-1 | Dibromochloromethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 74-95-3 | Dibromomethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 75-71-8 | Dichlorodifluoromethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 100-41-4 | **Ethyl Benzene** | **720** | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |
| 87-68-3 | Hexachlorobutadiene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 13:38 | SS |

## Sample Information

**Client Sample ID:** **MW-26S** **York Sample ID:** **19L0859-01**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### Volatile Organics, 8260 - Comprehensive

**Log-in Notes:**

**Sample Notes:** **Rep-04**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 98-82-8 | Isopropylbenzene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 79-20-9 | Methyl acetate | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 1634-04-4 | Methyl tert-butyl ether (MTBE) | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 108-87-2 | Methylcyclohexane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 75-09-2 | Methylene chloride | ND | | ug/L | 200 | 400 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 104-51-8 | n-Butylbenzene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 103-65-1 | n-Propylbenzene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 95-47-6 | **o-Xylene** | **840** | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP | | |
| 179601-23-1 | **p- & m- Xylenes** | **1200** | | ug/L | 100 | 200 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP | | |
| 99-87-6 | p-Isopropyltoluene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 135-98-8 | sec-Butylbenzene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 100-42-5 | Styrene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 75-65-0 | tert-Butyl alcohol (TBA) | ND | | ug/L | 40 | 500 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 98-06-6 | tert-Butylbenzene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 127-18-4 | Tetrachloroethylene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 108-88-3 | **Toluene** | **510** | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 10061-02-6 | trans-1,3-Dichloropropylene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 110-57-6 | trans-1,4-dichloro-2-butene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP | | |
| 79-01-6 | Trichloroethylene | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 75-69-4 | Trichlorofluoromethane | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 75-01-4 | Vinyl Chloride | ND | | ug/L | 40 | 100 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 1330-20-7 | **Xylenes, Total** | **2000** | | ug/L | 120 | 300 | 200 | EPA 8260C | 12/24/2019 12:30 | 12/25/2019 13:38 | SS |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP | | |

## Sample Information

**Client Sample ID:** **MW-26S** **York Sample ID:** **19L0859-01**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### Volatile Organics, 8260 - Comprehensive

**Log-in Notes:** **Sample Notes:** **Rep-04**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Surrogate Recoveries** | **Result** | | | **Acceptance Range** | | | | | | |
| 17060-07-0 | *Surrogate: SURR: 1,2-Dichloroethane-d4* | *104 %* | | | *69-130* | | | | | | |
| 2037-26-5 | *Surrogate: SURR: Toluene-d8* | *98.1 %* | | | *81-117* | | | | | | |
| 460-00-4 | *Surrogate: SURR: p-Bromofluorobenzene* | *102 %* | | | *79-122* | | | | | | |

### SVOA, 8270 Comprehensive

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

Sample Prepared by Method: EPA 3510C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92-52-4 | **1,1-Biphenyl** | **78.2** | | ug/L | 25.6 | 51.3 | 10 | EPA 8270D | 12/26/2019 13:55 | 12/30/2019 12:10 | OW |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP,PADEP | | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP,PADEP | | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | NELAC-NY10854,PADEP | | |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP,PADEP | | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | NELAC-NY10854,PADEP | | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | NELAC-NY10854,PADEP | | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP,PADEP | | |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 105-67-9 | **2,4-Dimethylphenol** | **376** | | ug/L | 25.6 | 51.3 | 10 | EPA 8270D | 12/26/2019 13:55 | 12/30/2019 12:10 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 91-58-7 | 2-Chloronaphthalene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 95-57-8 | 2-Chlorophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |

## Sample Information

**Client Sample ID:** **MW-26S** **York Sample ID:** **19L0859-01**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

**SVOA, 8270 Comprehensive**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3510C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 91-57-6 | **2-Methylnaphthalene** | **410** | | ug/L | 25.6 | 51.3 | 10 | EPA 8270D | 12/26/2019 13:55 | 12/30/2019 12:10 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 95-48-7 | **2-Methylphenol** | **61.7** | | ug/L | 25.6 | 51.3 | 10 | EPA 8270D | 12/26/2019 13:55 | 12/30/2019 12:10 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 88-74-4 | 2-Nitroaniline | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 88-75-5 | 2-Nitrophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 65794-96-9 | 3- & 4-Methylphenols | ND | | ug/L | 25.6 | 51.3 | 10 | EPA 8270D | 12/26/2019 13:55 | 12/30/2019 12:10 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 91-94-1 | 3,3-Dichlorobenzidine | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 99-09-2 | 3-Nitroaniline | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 106-47-8 | 4-Chloroaniline | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 100-01-6 | 4-Nitroaniline | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 100-02-7 | 4-Nitrophenol | ND | | ug/L | 5.13 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 83-32-9 | **Acenaphthene** | **196** | | ug/L | 25.6 | 51.3 | 10 | EPA 8270D | 12/26/2019 13:55 | 12/30/2019 12:10 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 208-96-8 | **Acenaphthylene** | **12.8** | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 98-86-2 | Acetophenone | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP,PADEP | | |
| 98-55-5 | * Alpha Terpineol | ND | | ug/L | 5.13 | 10.3 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | PADEP | | |
| 62-53-3 | **Aniline** | **39.1** | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP,PADEP | | |
| 120-12-7 | **Anthracene** | **16.6** | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |
| 1912-24-9 | Atrazine | ND | CCV-L | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP,PADEP | | |
| 100-52-7 | Benzaldehyde | ND | CCV-L | ug/L | 2.56 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | NELAC-NY10854,NJDEP,PADEP | | |
| 92-87-5 | Benzidine | ND | CCV-L | ug/L | 5.13 | 5.13 | 1 | EPA 8270D | 12/26/2019 13:55 | 12/27/2019 12:21 | OW |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NJDEP,PADEP | | |

## Sample Information

**Client Sample ID:** MW-26S

**York Sample ID:** 19L0859-01

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### SVOA, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3510C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 56-55-3 | Benzo(a)anthracene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 50-32-8 | Benzo(a)pyrene | ND | CCV-H | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 205-99-2 | Benzo(b)fluoranthene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 191-24-2 | Benzo(g,h,i)perylene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 207-08-9 | Benzo(k)fluoranthene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 65-85-0 | Benzoic acid | ND | | ug/L | 25.6 | 51.3 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 100-51-6 | Benzyl alcohol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 85-68-7 | Benzyl butyl phthalate | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 111-91-1 | Bis(2-chloroethoxy)methane | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 111-44-4 | Bis(2-chloroethyl)ether | ND | | ug/L | 1.03 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 108-60-1 | Bis(2-chloroisopropyl)ether | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 105-60-2 | Caprolactam | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 86-74-8 | **Carbazole** | **116** | | ug/L | 25.6 | 51.3 | 10 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/30/2019 12:10 | OW |
| 218-01-9 | Chrysene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 132-64-9 | **Dibenzofuran** | **149** | | ug/L | 25.6 | 51.3 | 10 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/30/2019 12:10 | OW |
| 84-66-2 | Diethyl phthalate | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 131-11-3 | Dimethyl phthalate | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 84-74-2 | Di-n-butyl phthalate | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 117-84-0 | Di-n-octyl phthalate | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 206-44-0 | **Fluoranthene** | **14.1** | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 86-73-7 | **Fluorene** | **110** | | ug/L | 25.6 | 51.3 | 10 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,NJDEP,PADEP | 12/30/2019 12:10 | OW |

## Sample Information

**Client Sample ID:** MW-26S

**York Sample ID:** 19L0859-01

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### SVOA, 8270 Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3510C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 118-74-1 | Hexachlorobenzene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 87-68-3 | Hexachlorobutadiene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ug/L | 5.13 | 10.3 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 67-72-1 | Hexachloroethane | ND | | ug/L | 1.28 | 2.56 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 78-59-1 | Isophorone | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 91-20-3 | **Naphthalene** | **9820** | | ug/L | 1280 | 2560 | 500 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/30/2019 12:42 | OW |
| 98-95-3 | Nitrobenzene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 62-75-9 | N-Nitrosodimethylamine | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 621-64-7 | N-nitroso-di-n-propylamine | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 87-86-5 | Pentachlorophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 85-01-8 | **Phenanthrene** | **135** | | ug/L | 25.6 | 51.3 | 10 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/30/2019 12:10 | OW |
| 108-95-2 | **Phenol** | **27.2** | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |
| 129-00-0 | **Pyrene** | **8.36** | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:21 | OW |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 367-12-4 | *Surrogate: SURR: 2-Fluorophenol* | *61.9 %* | *19.7-63.1* |
| 4165-62-2 | *Surrogate: SURR: Phenol-d5* | *17.3 %* | *10.1-41.7* |
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *90.4 %* | *50.2-113* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *70.7 %* | *39.9-105* |
| 118-79-6 | *Surrogate: SURR: 2,4,6-Tribromophenol* | *112 %* | *39.3-151* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *68.8 %* | *30.7-106* |

### Total Petroleum Hydrocarbons-DRO (C10-C28)

**Log-in Notes:**

**Sample Notes:** EXT-EM

Sample Prepared by Method: EPA 3510C

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

## Sample Information

**Client Sample ID:** MW-26S **York Sample ID:** 19L0859-01

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### Total Petroleum Hydrocarbons-DRO (C10-C28)

**Log-in Notes:** **Sample Notes:** EXT-EM

Sample Prepared by Method: EPA 3510C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Total Petroleum Hydrocarbons-DRO** | **23.7** | | mg/L | 0.100 | 1 | EPA 8015D | 12/27/2019 07:40 | 12/27/2019 13:42 | CM |
| | | | | | | | Certifications: NELAC-NY10854,NJDEP,PADEP | | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 638-68-6 | *Surrogate: Triacontane* | *66.5 %* | *40-150* |

### Total Petroleum Hydrocarbons-GRO (C5-C10)

**Log-in Notes:** **Sample Notes:** HT-01

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Total Petroleum Hydrocarbons-GRO** | **26.7** | | mg/L | 0.800 | 1 | EPA 8015D | 12/31/2019 08:00 | 12/31/2019 08:15 | SS |
| | | | | | | | Certifications: NELAC-NY10854,NJDEP,PADEP | | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 460-00-4 | *Surrogate: SURR: p-Bromofluorobenzene* | *99.3 %* | *70-130* |

### Iron by EPA 200.8

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

Sample Prepared by Method: EPA 200.8

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-89-6 | *** Iron** | **3950** | | ug/L | 10.0 | 1 | EPA 200.8 | 12/30/2019 09:53 | 01/02/2020 12:26 | TJM |
| | | | | | | | Certifications: CTDOH | | | |

### Sulfate as SO4

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

Sample Prepared by Method: EPA 300

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 14808-79-8 | **Sulfate** | **359** | | mg/L | 20.0 | 20 | EPA 300.0 | 12/24/2019 09:45 | 12/24/2019 11:01 | MAO |
| | | | | | | | Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP | | | |

### Alkalinity, Total

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

Sample Prepared by Method: Analysis Preparation

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Alkalinity, total** | **1800** | | mg/L | 2.0 | 1 | SM 2320B | 12/27/2019 09:25 | 12/27/2019 14:05 | JAG |
| | | | | | | | Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP | | | |

## Sample Information

**Client Sample ID:** **MW-27S** **York Sample ID:** **19L0859-02**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

**Volatile Organics, 8260 - Comprehensive**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 75-34-3 | 1,1-Dichloroethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 75-35-4 | 1,1-Dichloroethylene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | ug/L | 1.0 | 10 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 96-18-4 | 1,2,3-Trichloropropane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ug/L | 1.0 | 10 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 106-93-4 | 1,2-Dibromoethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 107-06-2 | 1,2-Dichloroethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 78-87-5 | 1,2-Dichloropropane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 123-91-1 | 1,4-Dioxane | ND | | ug/L | 200 | 200 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 78-93-3 | 2-Butanone | ND | | ug/L | 1.0 | 10 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 591-78-6 | 2-Hexanone | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30 | 12/31/2019 12:58<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | AB |

## Sample Information

**Client Sample ID:** **MW-27S** **York Sample ID:** **19L0859-02**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### Volatile Organics, 8260 - Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | | ug/L | 5.0 | 10 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 107-02-8 | Acrolein | ND | | ug/L | 1.0 | 10 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 107-13-1 | Acrylonitrile | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 71-43-2 | **Benzene** | **52** | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 74-97-5 | Bromochloromethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 75-27-4 | Bromodichloromethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 75-25-2 | Bromoform | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 74-83-9 | Bromomethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 75-15-0 | Carbon disulfide | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 56-23-5 | Carbon tetrachloride | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 108-90-7 | Chlorobenzene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 75-00-3 | Chloroethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 67-66-3 | Chloroform | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 74-87-3 | Chloromethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 10061-01-5 | cis-1,3-Dichloropropylene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 110-82-7 | Cyclohexane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 124-48-1 | Dibromochloromethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 74-95-3 | Dibromomethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 75-71-8 | Dichlorodifluoromethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 100-41-4 | **Ethyl Benzene** | **10** | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 87-68-3 | Hexachlorobutadiene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |
| 98-82-8 | **Isopropylbenzene** | **2.5** | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C | 12/31/2019 07:30 | 12/31/2019 12:58 | AB |
| | | | | | | | | Certifications: | CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | | |

## Sample Information

**Client Sample ID:** MW-27S

**York Sample ID:** 19L0859-02

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### Volatile Organics, 8260 - Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 79-20-9 | Methyl acetate | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 1634-04-4 | Methyl tert-butyl ether (MTBE) | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 108-87-2 | Methylcyclohexane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 75-09-2 | Methylene chloride | ND | | ug/L | 5.0 | 10 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 104-51-8 | n-Butylbenzene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 103-65-1 | n-Propylbenzene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 95-47-6 | o-Xylene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP | 12/31/2019 12:58 | AB |
| 179601-23-1 | p- & m- Xylenes | ND | | ug/L | 2.5 | 5.0 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP | 12/31/2019 12:58 | AB |
| 99-87-6 | p-Isopropyltoluene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 135-98-8 | sec-Butylbenzene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 100-42-5 | Styrene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 75-65-0 | tert-Butyl alcohol (TBA) | ND | | ug/L | 2.5 | 12 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 98-06-6 | tert-Butylbenzene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 127-18-4 | Tetrachloroethylene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 108-88-3 | Toluene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 10061-02-6 | trans-1,3-Dichloropropylene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 110-57-6 | trans-1,4-dichloro-2-butene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP | 12/31/2019 12:58 | AB |
| 79-01-6 | Trichloroethylene | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 75-69-4 | Trichlorofluoromethane | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 75-01-4 | Vinyl Chloride | ND | | ug/L | 1.0 | 2.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/31/2019 12:58 | AB |
| 1330-20-7 | Xylenes, Total | ND | | ug/L | 3.0 | 7.5 | 5 | EPA 8260C<br>Certifications: | 12/31/2019 07:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP | 12/31/2019 12:58 | AB |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 17060-07-0 | *Surrogate: SURR: 1,2-Dichloroethane-d4* | *93.4 %* | *69-130* |

## Sample Information

**Client Sample ID:** MW-27S

**York Sample ID:** 19L0859-02

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### Volatile Organics, 8260 - Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2037-26-5 | *Surrogate: SURR: Toluene-d8* | *96.7 %* | | | *81-117* | | | | | | |
| 460-00-4 | *Surrogate: SURR: p-Bromofluorobenzene* | *98.3 %* | | | *79-122* | | | | | | |

### SVOA, 8270 Low Comprehensive

**Log-in Notes:**

**Sample Notes:** EXT-EM

Sample Prepared by Method: EPA 3510C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 92-52-4 | 1,1-Biphenyl | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,PADEP | 12/27/2019 12:53 | OW |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,PADEP | 12/27/2019 12:53 | OW |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,PADEP | 12/27/2019 12:53 | OW |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 95-95-4 | 2,4,5-Trichlorophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 88-06-2 | 2,4,6-Trichlorophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 120-83-2 | 2,4-Dichlorophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 105-67-9 | 2,4-Dimethylphenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 51-28-5 | 2,4-Dinitrophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 121-14-2 | 2,4-Dinitrotoluene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 606-20-2 | 2,6-Dinitrotoluene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 91-58-7 | 2-Chloronaphthalene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 95-57-8 | 2-Chlorophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 91-57-6 | 2-Methylnaphthalene | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 95-48-7 | 2-Methylphenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |

## Sample Information

**Client Sample ID:** MW-27S

**York Sample ID:** 19L0859-02

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

**SVOA, 8270 Low Comprehensive**

**Log-in Notes:**

**Sample Notes:** EXT-EM

Sample Prepared by Method: EPA 3510C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 88-74-4 | 2-Nitroaniline | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 88-75-5 | 2-Nitrophenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 65794-96-9 | 3- & 4-Methylphenols | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 91-94-1 | 3,3-Dichlorobenzidine | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 99-09-2 | 3-Nitroaniline | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 59-50-7 | 4-Chloro-3-methylphenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 106-47-8 | 4-Chloroaniline | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 100-01-6 | 4-Nitroaniline | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 100-02-7 | 4-Nitrophenol | ND | | ug/L | 5.13 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 98-86-2 | Acetophenone | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 98-55-5 | * Alpha Terpineol | ND | | ug/L | 5.13 | 10.3 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>PADEP | 12/27/2019 12:53 | OW |
| 62-53-3 | Aniline | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 100-52-7 | Benzaldehyde | ND | CCV-L | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 92-87-5 | Benzidine | ND | CCV-L | ug/L | 5.13 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 65-85-0 | Benzoic acid | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 100-51-6 | Benzyl alcohol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 85-68-7 | Benzyl butyl phthalate | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 111-91-1 | Bis(2-chloroethoxy)methane | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 111-44-4 | Bis(2-chloroethyl)ether | ND | | ug/L | 1.03 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |
| 108-60-1 | Bis(2-chloroisopropyl)ether | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: | 12/26/2019 13:55<br>CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/27/2019 12:53 | OW |

## Sample Information

**Client Sample ID:** MW-27S

**York Sample ID:** 19L0859-02

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### SVOA, 8270 Low Comprehensive

**Log-in Notes:**

**Sample Notes:** EXT-EM

Sample Prepared by Method: EPA 3510C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 105-60-2 | Caprolactam | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 12:53 | OW |
| 86-74-8 | **Carbazole** | **4.47** | J | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 12:53 | OW |
| 132-64-9 | **Dibenzofuran** | **4.33** | J | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 12:53 | OW |
| 84-66-2 | Diethyl phthalate | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 12:53 | OW |
| 131-11-3 | Dimethyl phthalate | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 12:53 | OW |
| 84-74-2 | Di-n-butyl phthalate | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 12:53 | OW |
| 117-84-0 | Di-n-octyl phthalate | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 12:53 | OW |
| 77-47-4 | Hexachlorocyclopentadiene | ND | | ug/L | 5.13 | 10.3 | 1 | EPA 8270D<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 12:53 | OW |
| 78-59-1 | Isophorone | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 12:53 | OW |
| 621-64-7 | N-nitroso-di-n-propylamine | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 12:53 | OW |
| 86-30-6 | N-Nitrosodiphenylamine | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 12:53 | OW |
| 108-95-2 | Phenol | ND | | ug/L | 2.56 | 5.13 | 1 | EPA 8270D<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 12:53 | OW |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 367-12-4 | *Surrogate: SURR: 2-Fluorophenol* | *38.4 %* | *19.7-63.1* |
| 4165-62-2 | *Surrogate: SURR: Phenol-d5* | *22.7 %* | *10.1-41.7* |
| 4165-60-0 | *Surrogate: SURR: Nitrobenzene-d5* | *80.3 %* | *50.2-113* |
| 321-60-8 | *Surrogate: SURR: 2-Fluorobiphenyl* | *77.6 %* | *39.9-105* |
| 118-79-6 | *Surrogate: SURR: 2,4,6-Tribromophenol* | *100 %* | *39.3-151* |
| 1718-51-0 | *Surrogate: SURR: Terphenyl-d14* | *68.9 %* | *30.7-106* |

### SVOA, 8270 Low Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 3510C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 83-32-9 | **Acenaphthene** | **7.51** | | ug/L | 0.103 | 2 | EPA 8270D SIM<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 14:30 | OW |
| 208-96-8 | **Acenaphthylene** | **0.667** | | ug/L | 0.0513 | 1 | EPA 8270D SIM<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| 120-12-7 | **Anthracene** | **1.37** | | ug/L | 0.0513 | 1 | EPA 8270D SIM<br>Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| 1912-24-9 | Atrazine | ND | | ug/L | 0.513 | 1 | EPA 8270D SIM<br>Certifications: CTDOH,NELAC-NY10854,NJDEP | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |

## Sample Information

**Client Sample ID:** MW-27S

**York Sample ID:** 19L0859-02

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### SVOA, 8270 Low Comprehensive

**Log-in Notes:**

**Sample Notes:** EXT-EM

Sample Prepared by Method: EPA 3510C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 56-55-3 | **Benzo(a)anthracene** | **0.462** | | ug/L | 0.0513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | | | |
| 50-32-8 | **Benzo(a)pyrene** | **0.287** | | ug/L | 0.0513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | | | |
| 205-99-2 | **Benzo(b)fluoranthene** | **0.226** | | ug/L | 0.0513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | | | |
| 191-24-2 | **Benzo(g,h,i)perylene** | **0.133** | | ug/L | 0.0513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | | | |
| 207-08-9 | **Benzo(k)fluoranthene** | **0.195** | | ug/L | 0.0513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | | | |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | ND | | ug/L | 0.513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP | | | |
| 218-01-9 | **Chrysene** | **0.410** | | ug/L | 0.0513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | | | |
| 53-70-3 | **Dibenzo(a,h)anthracene** | **0.0513** | | ug/L | 0.0513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | | | |
| 206-44-0 | **Fluoranthene** | **2.15** | | ug/L | 0.0513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | | | |
| 86-73-7 | **Fluorene** | **3.64** | | ug/L | 0.0513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | | | |
| 118-74-1 | Hexachlorobenzene | ND | | ug/L | 0.0205 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP | | | |
| 87-68-3 | Hexachlorobutadiene | ND | | ug/L | 0.513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP | | | |
| 67-72-1 | Hexachloroethane | ND | | ug/L | 0.513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP | | | |
| 193-39-5 | **Indeno(1,2,3-cd)pyrene** | **0.113** | | ug/L | 0.0513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | | | |
| 91-20-3 | **Naphthalene** | **3.95** | | ug/L | 0.0513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | | | |
| 98-95-3 | Nitrobenzene | ND | | ug/L | 0.256 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP | | | |
| 62-75-9 | N-Nitrosodimethylamine | ND | | ug/L | 0.513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP | | | |
| 87-86-5 | Pentachlorophenol | ND | | ug/L | 0.256 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP | | | |
| 85-01-8 | **Phenanthrene** | **4.37** | | ug/L | 0.0513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | | | |
| 129-00-0 | **Pyrene** | **1.78** | | ug/L | 0.0513 | 1 | EPA 8270D SIM | 12/26/2019 13:55 | 12/27/2019 11:11 | OW |
| | | | | | | | Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP | | | |

### Total Petroleum Hydrocarbons-DRO (C10-C28)

**Log-in Notes:**

**Sample Notes:** EXT-EM

## Sample Information

**Client Sample ID:** **MW-27S** **York Sample ID:** **19L0859-02**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

Sample Prepared by Method: EPA 3510C

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Total Petroleum Hydrocarbons-DRO** | **0.532** | | mg/L | 0.108 | 1 | EPA 8015D | 12/27/2019 07:40 | 12/27/2019 14:12 | CM |
| | | | | | | | Certifications: NELAC-NY10854,NJDEP,PADEP | | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 638-68-6 | *Surrogate: Triacontane* | *87.4 %* | *40-150* |

### Total Petroleum Hydrocarbons-GRO (C5-C10)

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total Petroleum Hydrocarbons-GRO | ND | | mg/L | 0.800 | 1 | EPA 8015D | 12/30/2019 15:15 | 12/31/2019 02:21 | SS |
| | | | | | | | Certifications: NELAC-NY10854,NJDEP,PADEP | | | |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 460-00-4 | *Surrogate: SURR: p-Bromofluorobenzene* | *95.4 %* | *70-130* |

### Iron by EPA 200.8

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 200.8

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 7439-89-6 | *** Iron** | **921** | | ug/L | 10.0 | 1 | EPA 200.8 | 12/30/2019 09:53 | 01/02/2020 12:31 | TJM |
| | | | | | | | Certifications: CTDOH | | | |

### Sulfate as SO4

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 300

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| 14808-79-8 | **Sulfate** | **183** | | mg/L | 20.0 | 20 | EPA 300.0 | 12/24/2019 09:45 | 12/24/2019 12:03 | MAO |
| | | | | | | | Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP | | | |

### Alkalinity, Total

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: Analysis Preparation

| CAS No. | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Alkalinity, total** | **490** | | mg/L | 2.0 | 1 | SM 2320B | 12/27/2019 09:25 | 12/27/2019 14:05 | JAG |
| | | | | | | | Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP | | | |

## Sample Information

**Client Sample ID:** **Field Blank** **York Sample ID:** **19L0859-03**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

**Volatile Organics, 8260 - Comprehensive**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 75-34-3 | 1,1-Dichloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 75-35-4 | 1,1-Dichloroethylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 96-18-4 | 1,2,3-Trichloropropane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 106-93-4 | 1,2-Dibromoethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 107-06-2 | 1,2-Dichloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 78-87-5 | 1,2-Dichloropropane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 123-91-1 | 1,4-Dioxane | ND | | ug/L | 40 | 40 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 78-93-3 | 2-Butanone | ND | | ug/L | 0.20 | 2.0 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 591-78-6 | 2-Hexanone | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |

## Sample Information

**Client Sample ID:** **Field Blank** **York Sample ID:** **19L0859-03**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### Volatile Organics, 8260 - Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | | ug/L | 1.0 | 2.0 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 107-02-8 | Acrolein | ND | | ug/L | 0.20 | 2.0 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 107-13-1 | Acrylonitrile | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 71-43-2 | Benzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 74-97-5 | Bromochloromethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 75-27-4 | Bromodichloromethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 75-25-2 | Bromoform | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 74-83-9 | Bromomethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 75-15-0 | Carbon disulfide | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 56-23-5 | Carbon tetrachloride | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 108-90-7 | Chlorobenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 75-00-3 | Chloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 67-66-3 | Chloroform | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 74-87-3 | Chloromethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 10061-01-5 | cis-1,3-Dichloropropylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 110-82-7 | Cyclohexane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 124-48-1 | Dibromochloromethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 74-95-3 | Dibromomethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 75-71-8 | Dichlorodifluoromethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 100-41-4 | Ethyl Benzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 87-68-3 | Hexachlorobutadiene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |
| 98-82-8 | Isopropylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 14:37 | SS<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP |

## Sample Information

**Client Sample ID:** **Field Blank** **York Sample ID:** **19L0859-03**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### Volatile Organics, 8260 - Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 79-20-9 | Methyl acetate | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 1634-04-4 | Methyl tert-butyl ether (MTBE) | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 108-87-2 | Methylcyclohexane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 75-09-2 | **Methylene chloride** | **5.0** | | ug/L | 1.0 | 2.0 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 104-51-8 | n-Butylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 103-65-1 | n-Propylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 95-47-6 | o-Xylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP | 12/25/2019 14:37 | SS |
| 179601-23-1 | p- & m- Xylenes | ND | | ug/L | 0.50 | 1.0 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP | 12/25/2019 14:37 | SS |
| 99-87-6 | p-Isopropyltoluene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 135-98-8 | sec-Butylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 100-42-5 | Styrene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 75-65-0 | tert-Butyl alcohol (TBA) | ND | | ug/L | 0.20 | 2.5 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 98-06-6 | tert-Butylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 127-18-4 | Tetrachloroethylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 108-88-3 | Toluene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 10061-02-6 | trans-1,3-Dichloropropylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 110-57-6 | trans-1,4-dichloro-2-butene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP | 12/25/2019 14:37 | SS |
| 79-01-6 | Trichloroethylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 75-69-4 | Trichlorofluoromethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 75-01-4 | Vinyl Chloride | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 14:37 | SS |
| 1330-20-7 | Xylenes, Total | ND | | ug/L | 0.60 | 1.5 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP | 12/25/2019 14:37 | SS |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 17060-07-0 | *Surrogate: SURR: 1,2-Dichloroethane-d4* | *100 %* | *69-130* |

## Sample Information

**Client Sample ID:** **Field Blank** **York Sample ID:** **19L0859-03**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

**Volatile Organics, 8260 - Comprehensive**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2037-26-5 | *Surrogate: SURR: Toluene-d8* | *97.5 %* | | | *81-117* | | | | | | |
| 460-00-4 | *Surrogate: SURR: p-Bromofluorobenzene* | *108 %* | | | *79-122* | | | | | | |

## Sample Information

**Client Sample ID:** **Trip Blank** **York Sample ID:** **19L0859-04**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

**Volatile Organics, 8260 - Comprehensive**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 75-34-3 | 1,1-Dichloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 75-35-4 | 1,1-Dichloroethylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 96-18-4 | 1,2,3-Trichloropropane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 106-93-4 | 1,2-Dibromoethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 95-50-1 | 1,2-Dichlorobenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 107-06-2 | 1,2-Dichloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |

## Sample Information

**Client Sample ID:** **Trip Blank** **York Sample ID:** **19L0859-04**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### Volatile Organics, 8260 - Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 78-87-5 | 1,2-Dichloropropane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 541-73-1 | 1,3-Dichlorobenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 106-46-7 | 1,4-Dichlorobenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 123-91-1 | 1,4-Dioxane | ND | | ug/L | 40 | 40 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 78-93-3 | 2-Butanone | ND | | ug/L | 0.20 | 2.0 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 591-78-6 | 2-Hexanone | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 67-64-1 | **Acetone** | **3.7** | | ug/L | 1.0 | 2.0 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 107-02-8 | Acrolein | ND | | ug/L | 0.20 | 2.0 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 107-13-1 | Acrylonitrile | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 71-43-2 | Benzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 74-97-5 | Bromochloromethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 75-27-4 | Bromodichloromethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 75-25-2 | Bromoform | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 74-83-9 | Bromomethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 75-15-0 | Carbon disulfide | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 56-23-5 | Carbon tetrachloride | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 108-90-7 | Chlorobenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 75-00-3 | Chloroethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 67-66-3 | Chloroform | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 74-87-3 | Chloromethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30 | 12/25/2019 15:07<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | SS |

## Sample Information

**Client Sample ID:** **Trip Blank** **York Sample ID:** **19L0859-04**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### Volatile Organics, 8260 - Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 110-82-7 | Cyclohexane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 124-48-1 | Dibromochloromethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 74-95-3 | Dibromomethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 75-71-8 | Dichlorodifluoromethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 100-41-4 | Ethyl Benzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 87-68-3 | Hexachlorobutadiene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 98-82-8 | Isopropylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 79-20-9 | Methyl acetate | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 1634-04-4 | Methyl tert-butyl ether (MTBE) | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 108-87-2 | Methylcyclohexane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 75-09-2 | Methylene chloride | ND | | ug/L | 1.0 | 2.0 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 104-51-8 | n-Butylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 103-65-1 | n-Propylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 95-47-6 | o-Xylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP | 12/25/2019 15:07 | SS |
| 179601-23-1 | **p- & m- Xylenes** | **0.53** | J | ug/L | 0.50 | 1.0 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP | 12/25/2019 15:07 | SS |
| 99-87-6 | p-Isopropyltoluene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 135-98-8 | sec-Butylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 100-42-5 | Styrene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 75-65-0 | tert-Butyl alcohol (TBA) | ND | | ug/L | 0.20 | 2.5 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 98-06-6 | tert-Butylbenzene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 127-18-4 | Tetrachloroethylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 108-88-3 | Toluene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |

## Sample Information

**Client Sample ID:** **Trip Blank** **York Sample ID:** **19L0859-04**

| York Project (SDG) No. | Client Project ID | Matrix | Collection Date/Time | Date Received |
|---|---|---|---|---|
| 19L0859 | 19-44493 Queens Library | Water | December 20, 2019 12:00 am | 12/23/2019 |

### Volatile Organics, 8260 - Comprehensive

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA 5030B

| CAS No. | Parameter | Result | Flag | Units | Reported to LOD/MDL | LOQ | Dilution | Reference Method | Date/Time Prepared | Date/Time Analyzed | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 156-60-5 | trans-1,2-Dichloroethylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 10061-02-6 | trans-1,3-Dichloropropylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 110-57-6 | trans-1,4-dichloro-2-butene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP | 12/25/2019 15:07 | SS |
| 79-01-6 | Trichloroethylene | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 75-69-4 | Trichlorofluoromethane | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 75-01-4 | Vinyl Chloride | ND | | ug/L | 0.20 | 0.50 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP | 12/25/2019 15:07 | SS |
| 1330-20-7 | Xylenes, Total | ND | | ug/L | 0.60 | 1.5 | 1 | EPA 8260C<br>Certifications: | 12/24/2019 12:30<br>CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP | 12/25/2019 15:07 | SS |

| | Surrogate Recoveries | Result | Acceptance Range |
|---|---|---|---|
| 17060-07-0 | *Surrogate: SURR: 1,2-Dichloroethane-d4* | *93.8 %* | *69-130* |
| 2037-26-5 | *Surrogate: SURR: Toluene-d8* | *99.4 %* | *81-117* |
| 460-00-4 | *Surrogate: SURR: p-Bromofluorobenzene* | *108 %* | *79-122* |

# Analytical Batch Summary

**Batch ID:** BL91325 **Preparation Method:** EPA 5030B **Prepared By:** MAT

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 19L0859-01 | MW-26S | 12/24/19 |
| 19L0859-03 | Field Blank | 12/24/19 |
| 19L0859-04 | Trip Blank | 12/24/19 |
| BL91325-BLK1 | Blank | 12/24/19 |
| BL91325-BS1 | LCS | 12/24/19 |
| BL91325-BS2 | LCS | 12/24/19 |
| BL91325-BSD1 | LCS Dup | 12/24/19 |
| BL91325-BSD2 | LCS Dup | 12/24/19 |

**Batch ID:** BL91416 **Preparation Method:** EPA 3510C **Prepared By:** ZTS

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 19L0859-01 | MW-26S | 12/26/19 |
| 19L0859-01RE1 | MW-26S | 12/26/19 |
| 19L0859-01RE2 | MW-26S | 12/26/19 |
| 19L0859-02 | MW-27S | 12/26/19 |
| 19L0859-02RE1 | MW-27S | 12/26/19 |
| BL91416-BLK1 | Blank | 12/26/19 |
| BL91416-BLK2 | Blank | 12/26/19 |
| BL91416-BS1 | LCS | 12/26/19 |
| BL91416-BS2 | LCS | 12/26/19 |
| BL91416-BSD1 | LCS Dup | 12/26/19 |

**Batch ID:** BL91433 **Preparation Method:** EPA 300 **Prepared By:** MAO

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 19L0859-01 | MW-26S | 12/24/19 |
| 19L0859-02 | MW-27S | 12/24/19 |
| BL91433-BLK1 | Blank | 12/24/19 |
| BL91433-BS1 | LCS | 12/24/19 |
| BL91433-DUP1 | Duplicate | 12/24/19 |
| BL91433-MS1 | Matrix Spike | 12/24/19 |
| BL91433-MS2 | Matrix Spike | 12/24/19 |

**Batch ID:** BL91446 **Preparation Method:** EPA 3510C **Prepared By:** MAM

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 19L0859-01 | MW-26S | 12/27/19 |
| 19L0859-02 | MW-27S | 12/27/19 |
| BL91446-BLK1 | Blank | 12/27/19 |
| BL91446-BS1 | LCS | 12/27/19 |
| BL91446-BSD1 | LCS Dup | 12/27/19 |

**Batch ID:** BL91463 **Preparation Method:** Analysis Preparation **Prepared By:** JAG

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 19L0859-01 | MW-26S | 12/27/19 |
| 19L0859-02 | MW-27S | 12/27/19 |
| BL91463-DUP1 | Duplicate | 12/27/19 |
| BL91463-SRM1 | Reference | 12/27/19 |

**Batch ID:** BL91539 **Preparation Method:** EPA 200.8 **Prepared By:** SY

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 19L0859-01 | MW-26S | 12/30/19 |
| 19L0859-02 | MW-27S | 12/30/19 |
| BL91539-BLK1 | Blank | 12/30/19 |
| BL91539-BS1 | LCS | 12/30/19 |

**Batch ID:** BL91544 **Preparation Method:** EPA 5030B **Prepared By:** AB

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 19L0859-02 | MW-27S | 12/31/19 |
| BL91544-BLK1 | Blank | 12/31/19 |
| BL91544-BS1 | LCS | 12/31/19 |
| BL91544-BSD1 | LCS Dup | 12/31/19 |

**Batch ID:** BL91603 **Preparation Method:** EPA 5030B **Prepared By:** SS

| YORK Sample ID | Client Sample ID | Preparation Date |
|---|---|---|
| 19L0859-01 | MW-26S | 12/31/19 |
| 19L0859-02 | MW-27S | 12/30/19 |
| BL91603-BLK1 | Blank | 12/30/19 |
| BL91603-SRM1 | Reference | 12/30/19 |

## Volatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91325 - EPA 5030B** | | | | | | | | | | | |
| **Blank (BL91325-BLK1)** | | | | | | | | | | | |
| 1,1,1,2-Tetrachloroethane | ND | 0.50 | ug/L | | | | | | | | |
| 1,1,1-Trichloroethane | ND | 0.50 | " | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 0.50 | " | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | ND | 0.50 | " | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 0.50 | " | | | | | | | | |
| 1,1-Dichloroethane | ND | 0.50 | " | | | | | | | | |
| 1,1-Dichloroethylene | ND | 0.50 | " | | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 0.50 | " | | | | | | | | |
| 1,2,3-Trichloropropane | ND | 0.50 | " | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 0.50 | " | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 0.50 | " | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 0.50 | " | | | | | | | | |
| 1,2-Dibromoethane | ND | 0.50 | " | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.50 | " | | | | | | | | |
| 1,2-Dichloroethane | ND | 0.50 | " | | | | | | | | |
| 1,2-Dichloropropane | ND | 0.50 | " | | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 0.50 | " | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.50 | " | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.50 | " | | | | | | | | |
| 1,4-Dioxane | ND | 40 | " | | | | | | | | |
| 2-Butanone | ND | 2.0 | " | | | | | | | | |
| 2-Hexanone | ND | 0.50 | " | | | | | | | | |
| 4-Methyl-2-pentanone | ND | 0.50 | " | | | | | | | | |
| Acetone | ND | 2.0 | " | | | | | | | | |
| Acrolein | ND | 2.0 | " | | | | | | | | |
| Acrylonitrile | ND | 0.50 | " | | | | | | | | |
| Benzene | ND | 0.50 | " | | | | | | | | |
| Bromochloromethane | ND | 0.50 | " | | | | | | | | |
| Bromodichloromethane | ND | 0.50 | " | | | | | | | | |
| Bromoform | ND | 0.50 | " | | | | | | | | |
| Bromomethane | ND | 0.50 | " | | | | | | | | |
| Carbon disulfide | ND | 0.50 | " | | | | | | | | |
| Carbon tetrachloride | ND | 0.50 | " | | | | | | | | |
| Chlorobenzene | ND | 0.50 | " | | | | | | | | |
| Chloroethane | ND | 0.50 | " | | | | | | | | |
| Chloroform | ND | 0.50 | " | | | | | | | | |
| Chloromethane | ND | 0.50 | " | | | | | | | | |
| cis-1,2-Dichloroethylene | ND | 0.50 | " | | | | | | | | |
| cis-1,3-Dichloropropylene | ND | 0.50 | " | | | | | | | | |
| Cyclohexane | ND | 0.50 | " | | | | | | | | |
| Dibromochloromethane | ND | 0.50 | " | | | | | | | | |
| Dibromomethane | ND | 0.50 | " | | | | | | | | |
| Dichlorodifluoromethane | ND | 0.50 | " | | | | | | | | |
| Ethyl Benzene | ND | 0.50 | " | | | | | | | | |
| Hexachlorobutadiene | ND | 0.50 | " | | | | | | | | |
| Isopropylbenzene | ND | 0.50 | " | | | | | | | | |
| Methyl acetate | ND | 0.50 | " | | | | | | | | |
| Methyl tert-butyl ether (MTBE) | ND | 0.50 | " | | | | | | | | |
| Methylcyclohexane | ND | 0.50 | " | | | | | | | | |

Prepared: 12/24/2019 Analyzed: 12/25/2019

## Volatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91325 - EPA 5030B** | | | | | | | | | | | |
| **Blank (BL91325-BLK1)** | | | | | | | | Prepared: 12/24/2019 Analyzed: 12/25/2019 | | | |
| Methylene chloride | ND | 2.0 | ug/L | | | | | | | | |
| n-Butylbenzene | ND | 0.50 | " | | | | | | | | |
| n-Propylbenzene | ND | 0.50 | " | | | | | | | | |
| o-Xylene | ND | 0.50 | " | | | | | | | | |
| p- & m- Xylenes | ND | 1.0 | " | | | | | | | | |
| p-Isopropyltoluene | ND | 0.50 | " | | | | | | | | |
| sec-Butylbenzene | ND | 0.50 | " | | | | | | | | |
| Styrene | ND | 0.50 | " | | | | | | | | |
| tert-Butyl alcohol (TBA) | ND | 2.5 | " | | | | | | | | |
| tert-Butylbenzene | ND | 0.50 | " | | | | | | | | |
| Tetrachloroethylene | ND | 0.50 | " | | | | | | | | |
| Toluene | ND | 0.50 | " | | | | | | | | |
| trans-1,2-Dichloroethylene | ND | 0.50 | " | | | | | | | | |
| trans-1,3-Dichloropropylene | ND | 0.50 | " | | | | | | | | |
| trans-1,4-dichloro-2-butene | ND | 0.50 | " | | | | | | | | |
| Trichloroethylene | ND | 0.50 | " | | | | | | | | |
| Trichlorofluoromethane | ND | 0.50 | " | | | | | | | | |
| Vinyl Chloride | ND | 0.50 | " | | | | | | | | |
| Xylenes, Total | ND | 1.5 | " | | | | | | | | |
| *Surrogate: SURR: 1,2-Dichloroethane-d4* | *9.95* | | *"* | *10.0* | | *99.5* | *69-130* | | | | |
| *Surrogate: SURR: Toluene-d8* | *9.95* | | *"* | *10.0* | | *99.5* | *81-117* | | | | |
| *Surrogate: SURR: p-Bromofluorobenzene* | *10.2* | | *"* | *10.0* | | *102* | *79-122* | | | | |
| **LCS (BL91325-BS1)** | | | | | | | | Prepared: 12/24/2019 Analyzed: 12/25/2019 | | | |
| 1,1,1,2-Tetrachloroethane | 11 | | ug/L | 10.0 | | 106 | 82-126 | | | | |
| 1,1,1-Trichloroethane | 12 | | " | 10.0 | | 115 | 78-136 | | | | |
| 1,1,2,2-Tetrachloroethane | 9.6 | | " | 10.0 | | 95.8 | 76-129 | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 12 | | " | 10.0 | | 115 | 54-165 | | | | |
| 1,1,2-Trichloroethane | 9.8 | | " | 10.0 | | 97.8 | 82-123 | | | | |
| 1,1-Dichloroethane | 10 | | " | 10.0 | | 102 | 82-129 | | | | |
| 1,1-Dichloroethylene | 11 | | " | 10.0 | | 108 | 68-138 | | | | |
| 1,2,3-Trichlorobenzene | 8.9 | | " | 10.0 | | 89.4 | 76-136 | | | | |
| 1,2,3-Trichloropropane | 10 | | " | 10.0 | | 101 | 77-128 | | | | |
| 1,2,4-Trichlorobenzene | 9.3 | | " | 10.0 | | 92.9 | 76-137 | | | | |
| 1,2,4-Trimethylbenzene | 9.8 | | " | 10.0 | | 97.5 | 82-132 | | | | |
| 1,2-Dibromo-3-chloropropane | 10 | | " | 10.0 | | 103 | 45-147 | | | | |
| 1,2-Dibromoethane | 9.7 | | " | 10.0 | | 96.7 | 83-124 | | | | |
| 1,2-Dichlorobenzene | 10 | | " | 10.0 | | 99.8 | 79-123 | | | | |
| 1,2-Dichloroethane | 10 | | " | 10.0 | | 103 | 73-132 | | | | |
| 1,2-Dichloropropane | 9.2 | | " | 10.0 | | 92.0 | 78-126 | | | | |
| 1,3,5-Trimethylbenzene | 9.9 | | " | 10.0 | | 99.1 | 80-131 | | | | |
| 1,3-Dichlorobenzene | 9.8 | | " | 10.0 | | 98.5 | 86-122 | | | | |
| 1,4-Dichlorobenzene | 9.2 | | " | 10.0 | | 92.3 | 85-124 | | | | |
| 1,4-Dioxane | 9.8 | | " | 210 | | 4.66 | 10-349 | Low Bias | | | |
| 2-Butanone | 9.4 | | " | 10.0 | | 93.5 | 49-152 | | | | |
| 2-Hexanone | 10 | | " | 10.0 | | 103 | 51-146 | | | | |
| 4-Methyl-2-pentanone | 11 | | " | 10.0 | | 107 | 57-145 | | | | |
| Acetone | 10 | | " | 10.0 | | 101 | 14-150 | | | | |
| Acrolein | 4.2 | | " | 10.0 | | 42.5 | 10-153 | | | | |
| Acrylonitrile | 9.5 | | " | 10.0 | | 94.6 | 51-150 | | | | |

## Volatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91325 - EPA 5030B** | | | | | | | | | | | |
| **LCS (BL91325-BS1)** | | | | | | | | Prepared: 12/24/2019 Analyzed: 12/25/2019 | | | |
| Benzene | 11 | | ug/L | 10.0 | | 110 | 85-126 | | | | |
| Bromochloromethane | 9.8 | | " | 10.0 | | 98.2 | 77-128 | | | | |
| Bromodichloromethane | 9.9 | | " | 10.0 | | 98.6 | 79-128 | | | | |
| Bromoform | 9.8 | | " | 10.0 | | 98.2 | 78-133 | | | | |
| Bromomethane | 8.2 | | " | 10.0 | | 81.7 | 43-168 | | | | |
| Carbon disulfide | 11 | | " | 10.0 | | 113 | 68-146 | | | | |
| Carbon tetrachloride | 11 | | " | 10.0 | | 110 | 77-141 | | | | |
| Chlorobenzene | 9.9 | | " | 10.0 | | 99.1 | 88-120 | | | | |
| Chloroethane | 13 | | " | 10.0 | | 132 | 65-136 | | | | |
| Chloroform | 11 | | " | 10.0 | | 106 | 82-128 | | | | |
| Chloromethane | 12 | | " | 10.0 | | 123 | 43-155 | | | | |
| cis-1,2-Dichloroethylene | 10 | | " | 10.0 | | 101 | 83-129 | | | | |
| cis-1,3-Dichloropropylene | 9.7 | | " | 10.0 | | 97.2 | 80-131 | | | | |
| Cyclohexane | 11 | | " | 10.0 | | 108 | 63-149 | | | | |
| Dibromochloromethane | 11 | | " | 10.0 | | 106 | 80-130 | | | | |
| Dibromomethane | 9.7 | | " | 10.0 | | 97.4 | 72-134 | | | | |
| Dichlorodifluoromethane | 15 | | " | 10.0 | | 153 | 44-144 | High Bias | | | |
| Ethyl Benzene | 10 | | " | 10.0 | | 101 | 80-131 | | | | |
| Hexachlorobutadiene | 9.4 | | " | 10.0 | | 93.8 | 67-146 | | | | |
| Isopropylbenzene | 9.6 | | " | 10.0 | | 96.0 | 76-140 | | | | |
| Methyl acetate | 11 | | " | 10.0 | | 109 | 51-139 | | | | |
| Methyl tert-butyl ether (MTBE) | 11 | | " | 10.0 | | 110 | 76-135 | | | | |
| Methylcyclohexane | 10 | | " | 10.0 | | 100 | 72-143 | | | | |
| Methylene chloride | 11 | | " | 10.0 | | 110 | 55-137 | | | | |
| n-Butylbenzene | 9.7 | | " | 10.0 | | 97.4 | 79-132 | | | | |
| n-Propylbenzene | 9.5 | | " | 10.0 | | 94.9 | 78-133 | | | | |
| o-Xylene | 10 | | " | 10.0 | | 102 | 78-130 | | | | |
| p- & m- Xylenes | 20 | | " | 20.0 | | 102 | 77-133 | | | | |
| p-Isopropyltoluene | 10 | | " | 10.0 | | 102 | 81-136 | | | | |
| sec-Butylbenzene | 11 | | " | 10.0 | | 106 | 79-137 | | | | |
| Styrene | 10 | | " | 10.0 | | 104 | 67-132 | | | | |
| tert-Butyl alcohol (TBA) | 56 | | " | 50.0 | | 113 | 25-162 | | | | |
| tert-Butylbenzene | 9.8 | | " | 10.0 | | 98.5 | 77-138 | | | | |
| Tetrachloroethylene | 8.6 | | " | 10.0 | | 85.5 | 82-131 | | | | |
| Toluene | 10 | | " | 10.0 | | 103 | 80-127 | | | | |
| trans-1,2-Dichloroethylene | 11 | | " | 10.0 | | 109 | 80-132 | | | | |
| trans-1,3-Dichloropropylene | 10 | | " | 10.0 | | 99.8 | 78-131 | | | | |
| trans-1,4-dichloro-2-butene | 9.7 | | " | 10.0 | | 96.9 | 63-141 | | | | |
| Trichloroethylene | 10 | | " | 10.0 | | 99.9 | 82-128 | | | | |
| Trichlorofluoromethane | 12 | | " | 10.0 | | 121 | 67-139 | | | | |
| Vinyl Chloride | 11 | | " | 10.0 | | 114 | 58-145 | | | | |
| *Surrogate: SURR: 1,2-Dichloroethane-d4* | *10.4* | | *"* | *10.0* | | *104* | *69-130* | | | | |
| *Surrogate: SURR: Toluene-d8* | *9.75* | | *"* | *10.0* | | *97.5* | *81-117* | | | | |
| *Surrogate: SURR: p-Bromofluorobenzene* | *10.1* | | *"* | *10.0* | | *101* | *79-122* | | | | |

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91325 - EPA 5030B** | | | | | | | | | | | |
| **LCS (BL91325-BS2)** | | | | | | | | Prepared: 12/24/2019 Analyzed: 12/25/2019 | | | |
| 1,1,1,2-Tetrachloroethane | 10 | | ug/L | 10.0 | | 100 | 82-126 | | | | |
| 1,1,1-Trichloroethane | 11 | | " | 10.0 | | 112 | 78-136 | | | | |
| 1,1,2,2-Tetrachloroethane | 9.8 | | " | 10.0 | | 97.7 | 76-129 | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 11 | | " | 10.0 | | 108 | 54-165 | | | | |
| 1,1,2-Trichloroethane | 9.6 | | " | 10.0 | | 96.5 | 82-123 | | | | |
| 1,1-Dichloroethane | 10 | | " | 10.0 | | 100 | 82-129 | | | | |
| 1,1-Dichloroethylene | 11 | | " | 10.0 | | 105 | 68-138 | | | | |
| 1,2,3-Trichlorobenzene | 10 | | " | 10.0 | | 100 | 76-136 | | | | |
| 1,2,3-Trichloropropane | 9.8 | | " | 10.0 | | 98.0 | 77-128 | | | | |
| 1,2,4-Trichlorobenzene | 9.4 | | " | 10.0 | | 94.5 | 76-137 | | | | |
| 1,2,4-Trimethylbenzene | 9.5 | | " | 10.0 | | 95.4 | 82-132 | | | | |
| 1,2-Dibromo-3-chloropropane | 9.9 | | " | 10.0 | | 99.1 | 45-147 | | | | |
| 1,2-Dibromoethane | 9.7 | | " | 10.0 | | 96.7 | 83-124 | | | | |
| 1,2-Dichlorobenzene | 9.7 | | " | 10.0 | | 96.9 | 79-123 | | | | |
| 1,2-Dichloroethane | 10 | | " | 10.0 | | 104 | 73-132 | | | | |
| 1,2-Dichloropropane | 8.9 | | " | 10.0 | | 88.6 | 78-126 | | | | |
| 1,3,5-Trimethylbenzene | 9.8 | | " | 10.0 | | 98.0 | 80-131 | | | | |
| 1,3-Dichlorobenzene | 9.7 | | " | 10.0 | | 97.3 | 86-122 | | | | |
| 1,4-Dichlorobenzene | 9.4 | | " | 10.0 | | 94.5 | 85-124 | | | | |
| 1,4-Dioxane | 200 | | " | 210 | | 92.9 | 10-349 | | | | |
| 2-Butanone | 10 | | " | 10.0 | | 103 | 49-152 | | | | |
| 2-Hexanone | 10 | | " | 10.0 | | 101 | 51-146 | | | | |
| 4-Methyl-2-pentanone | 10 | | " | 10.0 | | 104 | 57-145 | | | | |
| Acetone | 9.8 | | " | 10.0 | | 98.1 | 14-150 | | | | |
| Acrolein | 4.5 | | " | 10.0 | | 45.4 | 10-153 | | | | |
| Acrylonitrile | 9.0 | | " | 10.0 | | 90.5 | 51-150 | | | | |
| Benzene | 11 | | " | 10.0 | | 106 | 85-126 | | | | |
| Bromochloromethane | 9.8 | | " | 10.0 | | 98.1 | 77-128 | | | | |
| Bromodichloromethane | 9.7 | | " | 10.0 | | 96.8 | 79-128 | | | | |
| Bromoform | 9.5 | | " | 10.0 | | 94.6 | 78-133 | | | | |
| Bromomethane | 12 | | " | 10.0 | | 115 | 43-168 | | | | |
| Carbon disulfide | 11 | | " | 10.0 | | 108 | 68-146 | | | | |
| Carbon tetrachloride | 11 | | " | 10.0 | | 109 | 77-141 | | | | |
| Chlorobenzene | 9.6 | | " | 10.0 | | 95.8 | 88-120 | | | | |
| Chloroethane | 13 | | " | 10.0 | | 128 | 65-136 | | | | |
| Chloroform | 10 | | " | 10.0 | | 102 | 82-128 | | | | |
| Chloromethane | 11 | | " | 10.0 | | 114 | 43-155 | | | | |
| cis-1,2-Dichloroethylene | 10 | | " | 10.0 | | 101 | 83-129 | | | | |
| cis-1,3-Dichloropropylene | 9.4 | | " | 10.0 | | 93.9 | 80-131 | | | | |
| Cyclohexane | 10 | | " | 10.0 | | 101 | 63-149 | | | | |
| Dibromochloromethane | 11 | | " | 10.0 | | 107 | 80-130 | | | | |
| Dibromomethane | 9.5 | | " | 10.0 | | 95.3 | 72-134 | | | | |
| Dichlorodifluoromethane | 15 | | " | 10.0 | | 155 | 44-144 | High Bias | | | |
| Ethyl Benzene | 9.7 | | " | 10.0 | | 97.1 | 80-131 | | | | |
| Hexachlorobutadiene | 9.9 | | " | 10.0 | | 98.8 | 67-146 | | | | |
| Isopropylbenzene | 9.4 | | " | 10.0 | | 94.4 | 76-140 | | | | |
| Methyl acetate | 8.8 | | " | 10.0 | | 88.3 | 51-139 | | | | |
| Methyl tert-butyl ether (MTBE) | 11 | | " | 10.0 | | 105 | 76-135 | | | | |
| Methylcyclohexane | 9.6 | | " | 10.0 | | 95.7 | 72-143 | | | | |
| Methylene chloride | 11 | | " | 10.0 | | 107 | 55-137 | | | | |

## Volatile Organic Compounds by GC/MS - Quality Control Data

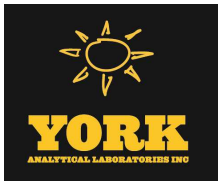
## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91325 - EPA 5030B** | | | | | | | | | | | |
| **LCS (BL91325-BS2)** | | | | | | | | Prepared: 12/24/2019 Analyzed: 12/25/2019 | | | |
| n-Butylbenzene | 9.5 | | ug/L | 10.0 | | 94.6 | 79-132 | | | | |
| n-Propylbenzene | 9.4 | | " | 10.0 | | 93.8 | 78-133 | | | | |
| o-Xylene | 9.9 | | " | 10.0 | | 99.0 | 78-130 | | | | |
| p- & m- Xylenes | 19 | | " | 20.0 | | 97.4 | 77-133 | | | | |
| p-Isopropyltoluene | 10 | | " | 10.0 | | 100 | 81-136 | | | | |
| sec-Butylbenzene | 10 | | " | 10.0 | | 104 | 79-137 | | | | |
| Styrene | 9.9 | | " | 10.0 | | 99.4 | 67-132 | | | | |
| tert-Butyl alcohol (TBA) | 48 | | " | 50.0 | | 96.8 | 25-162 | | | | |
| tert-Butylbenzene | 9.6 | | " | 10.0 | | 96.0 | 77-138 | | | | |
| Tetrachloroethylene | 8.1 | | " | 10.0 | | 80.9 | 82-131 | Low Bias | | | |
| Toluene | 9.9 | | " | 10.0 | | 98.6 | 80-127 | | | | |
| trans-1,2-Dichloroethylene | 11 | | " | 10.0 | | 109 | 80-132 | | | | |
| trans-1,3-Dichloropropylene | 9.7 | | " | 10.0 | | 97.3 | 78-131 | | | | |
| trans-1,4-dichloro-2-butene | 9.6 | | " | 10.0 | | 96.3 | 63-141 | | | | |
| Trichloroethylene | 9.4 | | " | 10.0 | | 93.9 | 82-128 | | | | |
| Trichlorofluoromethane | 12 | | " | 10.0 | | 116 | 67-139 | | | | |
| Vinyl Chloride | 11 | | " | 10.0 | | 112 | 58-145 | | | | |
| *Surrogate: SURR: 1,2-Dichloroethane-d4* | *10.3* | | *"* | *10.0* | | *103* | *69-130* | | | | |
| *Surrogate: SURR: Toluene-d8* | *9.61* | | *"* | *10.0* | | *96.1* | *81-117* | | | | |
| *Surrogate: SURR: p-Bromofluorobenzene* | *10.2* | | *"* | *10.0* | | *102* | *79-122* | | | | |
| **LCS Dup (BL91325-BSD1)** | | | | | | | | Prepared: 12/24/2019 Analyzed: 12/25/2019 | | | |
| 1,1,1,2-Tetrachloroethane | 10 | | ug/L | 10.0 | | 100 | 82-126 | | 5.34 | 30 | |
| 1,1,1-Trichloroethane | 11 | | " | 10.0 | | 112 | 78-136 | | 2.82 | 30 | |
| 1,1,2,2-Tetrachloroethane | 8.8 | | " | 10.0 | | 88.4 | 76-129 | | 8.03 | 30 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 11 | | " | 10.0 | | 113 | 54-165 | | 2.37 | 30 | |
| 1,1,2-Trichloroethane | 9.2 | | " | 10.0 | | 91.9 | 82-123 | | 6.22 | 30 | |
| 1,1-Dichloroethane | 10 | | " | 10.0 | | 100 | 82-129 | | 1.39 | 30 | |
| 1,1-Dichloroethylene | 11 | | " | 10.0 | | 106 | 68-138 | | 1.03 | 30 | |
| 1,2,3-Trichlorobenzene | 8.7 | | " | 10.0 | | 86.7 | 76-136 | | 3.07 | 30 | |
| 1,2,3-Trichloropropane | 9.9 | | " | 10.0 | | 99.1 | 77-128 | | 1.70 | 30 | |
| 1,2,4-Trichlorobenzene | 9.0 | | " | 10.0 | | 89.5 | 76-137 | | 3.73 | 30 | |
| 1,2,4-Trimethylbenzene | 9.7 | | " | 10.0 | | 96.8 | 82-132 | | 0.721 | 30 | |
| 1,2-Dibromo-3-chloropropane | 10 | | " | 10.0 | | 101 | 45-147 | | 2.16 | 30 | |
| 1,2-Dibromoethane | 9.4 | | " | 10.0 | | 94.4 | 83-124 | | 2.41 | 30 | |
| 1,2-Dichlorobenzene | 9.6 | | " | 10.0 | | 95.8 | 79-123 | | 4.09 | 30 | |
| 1,2-Dichloroethane | 10 | | " | 10.0 | | 101 | 73-132 | | 2.26 | 30 | |
| 1,2-Dichloropropane | 9.0 | | " | 10.0 | | 90.5 | 78-126 | | 1.64 | 30 | |
| 1,3,5-Trimethylbenzene | 9.7 | | " | 10.0 | | 97.4 | 80-131 | | 1.73 | 30 | |
| 1,3-Dichlorobenzene | 9.7 | | " | 10.0 | | 96.9 | 86-122 | | 1.64 | 30 | |
| 1,4-Dichlorobenzene | 9.5 | | " | 10.0 | | 95.0 | 85-124 | | 2.88 | 30 | |
| 1,4-Dioxane | 220 | | " | 210 | | 104 | 10-349 | | 183 | 30 | Non-dir. |
| 2-Butanone | 11 | | " | 10.0 | | 112 | 49-152 | | 18.0 | 30 | |
| 2-Hexanone | 10 | | " | 10.0 | | 101 | 51-146 | | 2.45 | 30 | |
| 4-Methyl-2-pentanone | 10 | | " | 10.0 | | 101 | 57-145 | | 5.76 | 30 | |
| Acetone | 9.6 | | " | 10.0 | | 96.2 | 14-150 | | 4.97 | 30 | |
| Acrolein | 4.4 | | " | 10.0 | | 44.3 | 10-153 | | 4.15 | 30 | |
| Acrylonitrile | 10 | | " | 10.0 | | 102 | 51-150 | | 7.43 | 30 | |
| Benzene | 11 | | " | 10.0 | | 106 | 85-126 | | 3.53 | 30 | |
| Bromochloromethane | 9.4 | | " | 10.0 | | 93.8 | 77-128 | | 4.58 | 30 | |

## Volatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91325 - EPA 5030B** | | | | | | | | | | | |
| **LCS Dup (BL91325-BSD1)** | | | | | | | | Prepared: 12/24/2019 Analyzed: 12/25/2019 | | | |
| Bromodichloromethane | 9.7 | | ug/L | 10.0 | | 97.4 | 79-128 | | 1.22 | 30 | |
| Bromoform | 9.5 | | " | 10.0 | | 95.1 | 78-133 | | 3.21 | 30 | |
| Bromomethane | 10 | | " | 10.0 | | 102 | 43-168 | | 22.1 | 30 | |
| Carbon disulfide | 11 | | " | 10.0 | | 111 | 68-146 | | 1.79 | 30 | |
| Carbon tetrachloride | 11 | | " | 10.0 | | 109 | 77-141 | | 0.183 | 30 | |
| Chlorobenzene | 9.6 | | " | 10.0 | | 95.6 | 88-120 | | 3.60 | 30 | |
| Chloroethane | 12 | | " | 10.0 | | 118 | 65-136 | | 11.8 | 30 | |
| Chloroform | 10 | | " | 10.0 | | 104 | 82-128 | | 2.57 | 30 | |
| Chloromethane | 11 | | " | 10.0 | | 107 | 43-155 | | 13.6 | 30 | |
| cis-1,2-Dichloroethylene | 9.9 | | " | 10.0 | | 99.1 | 83-129 | | 1.90 | 30 | |
| cis-1,3-Dichloropropylene | 9.6 | | " | 10.0 | | 96.2 | 80-131 | | 1.03 | 30 | |
| Cyclohexane | 11 | | " | 10.0 | | 105 | 63-149 | | 2.16 | 30 | |
| Dibromochloromethane | 11 | | " | 10.0 | | 107 | 80-130 | | 1.13 | 30 | |
| Dibromomethane | 9.5 | | " | 10.0 | | 94.7 | 72-134 | | 2.81 | 30 | |
| Dichlorodifluoromethane | 16 | | " | 10.0 | | 159 | 44-144 | High Bias | 3.59 | 30 | |
| Ethyl Benzene | 9.9 | | " | 10.0 | | 99.0 | 80-131 | | 2.40 | 30 | |
| Hexachlorobutadiene | 9.6 | | " | 10.0 | | 96.2 | 67-146 | | 2.53 | 30 | |
| Isopropylbenzene | 9.6 | | " | 10.0 | | 95.8 | 76-140 | | 0.209 | 30 | |
| Methyl acetate | 11 | | " | 10.0 | | 105 | 51-139 | | 3.27 | 30 | |
| Methyl tert-butyl ether (MTBE) | 10 | | " | 10.0 | | 103 | 76-135 | | 6.60 | 30 | |
| Methylcyclohexane | 9.9 | | " | 10.0 | | 99.0 | 72-143 | | 1.50 | 30 | |
| Methylene chloride | 11 | | " | 10.0 | | 108 | 55-137 | | 1.75 | 30 | |
| n-Butylbenzene | 9.7 | | " | 10.0 | | 97.1 | 79-132 | | 0.308 | 30 | |
| n-Propylbenzene | 9.6 | | " | 10.0 | | 95.5 | 78-133 | | 0.630 | 30 | |
| o-Xylene | 10 | | " | 10.0 | | 99.5 | 78-130 | | 2.38 | 30 | |
| p- & m- Xylenes | 20 | | " | 20.0 | | 99.1 | 77-133 | | 2.64 | 30 | |
| p-Isopropyltoluene | 10 | | " | 10.0 | | 100 | 81-136 | | 1.29 | 30 | |
| sec-Butylbenzene | 10 | | " | 10.0 | | 104 | 79-137 | | 1.62 | 30 | |
| Styrene | 10 | | " | 10.0 | | 101 | 67-132 | | 3.31 | 30 | |
| tert-Butyl alcohol (TBA) | 50 | | " | 50.0 | | 101 | 25-162 | | 11.1 | 30 | |
| tert-Butylbenzene | 9.7 | | " | 10.0 | | 97.2 | 77-138 | | 1.33 | 30 | |
| Tetrachloroethylene | 8.3 | | " | 10.0 | | 82.7 | 82-131 | | 3.33 | 30 | |
| Toluene | 10 | | " | 10.0 | | 103 | 80-127 | | 0.583 | 30 | |
| trans-1,2-Dichloroethylene | 11 | | " | 10.0 | | 109 | 80-132 | | 0.00 | 30 | |
| trans-1,3-Dichloropropylene | 9.7 | | " | 10.0 | | 96.8 | 78-131 | | 3.05 | 30 | |
| trans-1,4-dichloro-2-butene | 9.7 | | " | 10.0 | | 96.8 | 63-141 | | 0.103 | 30 | |
| Trichloroethylene | 10 | | " | 10.0 | | 100 | 82-128 | | 0.100 | 30 | |
| Trichlorofluoromethane | 11 | | " | 10.0 | | 112 | 67-139 | | 7.82 | 30 | |
| Vinyl Chloride | 11 | | " | 10.0 | | 110 | 58-145 | | 3.74 | 30 | |
| *Surrogate: SURR: 1,2-Dichloroethane-d4* | *9.86* | | *"* | *10.0* | | *98.6* | *69-130* | | | | |
| *Surrogate: SURR: Toluene-d8* | *9.69* | | *"* | *10.0* | | *96.9* | *81-117* | | | | |
| *Surrogate: SURR: p-Bromofluorobenzene* | *9.87* | | *"* | *10.0* | | *98.7* | *79-122* | | | | |




## Volatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91325 - EPA 5030B** | | | | | | | | | | | |
| **LCS Dup (BL91325-BSD2)** | | | | | | | | Prepared: 12/24/2019 Analyzed: 12/25/2019 | | | |
| 1,1,1,2-Tetrachloroethane | 10 | | ug/L | 10.0 | | 99.6 | 82-126 | | 0.800 | 30 | |
| 1,1,1-Trichloroethane | 11 | | " | 10.0 | | 110 | 78-136 | | 1.17 | 30 | |
| 1,1,2,2-Tetrachloroethane | 9.8 | | " | 10.0 | | 97.5 | 76-129 | | 0.205 | 30 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 11 | | " | 10.0 | | 108 | 54-165 | | 0.00 | 30 | |
| 1,1,2-Trichloroethane | 9.7 | | " | 10.0 | | 96.6 | 82-123 | | 0.104 | 30 | |
| 1,1-Dichloroethane | 10 | | " | 10.0 | | 99.5 | 82-129 | | 1.00 | 30 | |
| 1,1-Dichloroethylene | 10 | | " | 10.0 | | 104 | 68-138 | | 0.955 | 30 | |
| 1,2,3-Trichlorobenzene | 8.8 | | " | 10.0 | | 88.4 | 76-136 | | 12.6 | 30 | |
| 1,2,3-Trichloropropane | 9.9 | | " | 10.0 | | 99.1 | 77-128 | | 1.12 | 30 | |
| 1,2,4-Trichlorobenzene | 9.0 | | " | 10.0 | | 90.3 | 76-137 | | 4.55 | 30 | |
| 1,2,4-Trimethylbenzene | 9.4 | | " | 10.0 | | 94.0 | 82-132 | | 1.48 | 30 | |
| 1,2-Dibromo-3-chloropropane | 9.5 | | " | 10.0 | | 95.1 | 45-147 | | 4.12 | 30 | |
| 1,2-Dibromoethane | 9.8 | | " | 10.0 | | 98.5 | 83-124 | | 1.84 | 30 | |
| 1,2-Dichlorobenzene | 9.8 | | " | 10.0 | | 97.5 | 79-123 | | 0.617 | 30 | |
| 1,2-Dichloroethane | 11 | | " | 10.0 | | 108 | 73-132 | | 4.05 | 30 | |
| 1,2-Dichloropropane | 8.8 | | " | 10.0 | | 87.5 | 78-126 | | 1.25 | 30 | |
| 1,3,5-Trimethylbenzene | 9.7 | | " | 10.0 | | 97.2 | 80-131 | | 0.820 | 30 | |
| 1,3-Dichlorobenzene | 9.5 | | " | 10.0 | | 94.9 | 86-122 | | 2.50 | 30 | |
| 1,4-Dichlorobenzene | 9.3 | | " | 10.0 | | 92.7 | 85-124 | | 1.92 | 30 | |
| 1,4-Dioxane | 180 | | " | 210 | | 87.1 | 10-349 | | 6.43 | 30 | |
| 2-Butanone | 10 | | " | 10.0 | | 105 | 49-152 | | 1.54 | 30 | |
| 2-Hexanone | 9.9 | | " | 10.0 | | 99.1 | 51-146 | | 2.20 | 30 | |
| 4-Methyl-2-pentanone | 9.9 | | " | 10.0 | | 98.8 | 57-145 | | 5.22 | 30 | |
| Acetone | 11 | | " | 10.0 | | 108 | 14-150 | | 9.70 | 30 | |
| Acrolein | 5.1 | | " | 10.0 | | 50.9 | 10-153 | | 11.4 | 30 | |
| Acrylonitrile | 9.9 | | " | 10.0 | | 99.2 | 51-150 | | 9.17 | 30 | |
| Benzene | 11 | | " | 10.0 | | 106 | 85-126 | | 0.566 | 30 | |
| Bromochloromethane | 9.9 | | " | 10.0 | | 98.7 | 77-128 | | 0.610 | 30 | |
| Bromodichloromethane | 9.7 | | " | 10.0 | | 97.1 | 79-128 | | 0.309 | 30 | |
| Bromoform | 9.9 | | " | 10.0 | | 98.6 | 78-133 | | 4.14 | 30 | |
| Bromomethane | 13 | | " | 10.0 | | 129 | 43-168 | | 11.3 | 30 | |
| Carbon disulfide | 11 | | " | 10.0 | | 105 | 68-146 | | 2.81 | 30 | |
| Carbon tetrachloride | 11 | | " | 10.0 | | 106 | 77-141 | | 2.42 | 30 | |
| Chlorobenzene | 9.6 | | " | 10.0 | | 95.8 | 88-120 | | 0.00 | 30 | |
| Chloroethane | 11 | | " | 10.0 | | 112 | 65-136 | | 13.0 | 30 | |
| Chloroform | 10 | | " | 10.0 | | 105 | 82-128 | | 2.32 | 30 | |
| Chloromethane | 11 | | " | 10.0 | | 112 | 43-155 | | 1.68 | 30 | |
| cis-1,2-Dichloroethylene | 9.8 | | " | 10.0 | | 97.7 | 83-129 | | 3.72 | 30 | |
| cis-1,3-Dichloropropylene | 9.6 | | " | 10.0 | | 95.6 | 80-131 | | 1.79 | 30 | |
| Cyclohexane | 10 | | " | 10.0 | | 102 | 63-149 | | 1.08 | 30 | |
| Dibromochloromethane | 11 | | " | 10.0 | | 108 | 80-130 | | 1.67 | 30 | |
| Dibromomethane | 9.2 | | " | 10.0 | | 92.0 | 72-134 | | 3.52 | 30 | |
| Dichlorodifluoromethane | 15 | | " | 10.0 | | 153 | 44-144 | High Bias | 1.23 | 30 | |
| Ethyl Benzene | 9.8 | | " | 10.0 | | 98.4 | 80-131 | | 1.33 | 30 | |
| Hexachlorobutadiene | 9.2 | | " | 10.0 | | 92.2 | 67-146 | | 6.91 | 30 | |
| Isopropylbenzene | 9.5 | | " | 10.0 | | 95.2 | 76-140 | | 0.844 | 30 | |
| Methyl acetate | 9.0 | | " | 10.0 | | 89.8 | 51-139 | | 1.68 | 30 | |
| Methyl tert-butyl ether (MTBE) | 11 | | " | 10.0 | | 108 | 76-135 | | 2.72 | 30 | |
| Methylcyclohexane | 9.7 | | " | 10.0 | | 96.8 | 72-143 | | 1.14 | 30 | |
| Methylene chloride | 10 | | " | 10.0 | | 104 | 55-137 | | 2.37 | 30 | |

## Volatile Organic Compounds by GC/MS - Quality Control Data

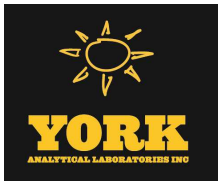
## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91325 - EPA 5030B** | | | | | | | | | | | |
| **LCS Dup (BL91325-BSD2)** | | | | | | | | | Prepared: 12/24/2019 Analyzed: 12/25/2019 | | |
| n-Butylbenzene | 10 | | ug/L | 10.0 | | 104 | 79-132 | | 9.66 | 30 | |
| n-Propylbenzene | 9.4 | | " | 10.0 | | 94.2 | 78-133 | | 0.426 | 30 | |
| o-Xylene | 9.8 | | " | 10.0 | | 98.5 | 78-130 | | 0.506 | 30 | |
| p- & m- Xylenes | 20 | | " | 20.0 | | 98.0 | 77-133 | | 0.614 | 30 | |
| p-Isopropyltoluene | 9.8 | | " | 10.0 | | 97.6 | 81-136 | | 2.43 | 30 | |
| sec-Butylbenzene | 10 | | " | 10.0 | | 103 | 79-137 | | 0.872 | 30 | |
| Styrene | 10 | | " | 10.0 | | 99.6 | 67-132 | | 0.201 | 30 | |
| tert-Butyl alcohol (TBA) | 50 | | " | 50.0 | | 101 | 25-162 | | 3.83 | 30 | |
| tert-Butylbenzene | 9.5 | | " | 10.0 | | 95.3 | 77-138 | | 0.732 | 30 | |
| Tetrachloroethylene | 8.2 | | " | 10.0 | | 82.2 | 82-131 | | 1.59 | 30 | |
| Toluene | 10 | | " | 10.0 | | 99.7 | 80-127 | | 1.11 | 30 | |
| trans-1,2-Dichloroethylene | 11 | | " | 10.0 | | 108 | 80-132 | | 1.01 | 30 | |
| trans-1,3-Dichloropropylene | 9.9 | | " | 10.0 | | 98.7 | 78-131 | | 1.43 | 30 | |
| trans-1,4-dichloro-2-butene | 9.9 | | " | 10.0 | | 98.6 | 63-141 | | 2.36 | 30 | |
| Trichloroethylene | 9.4 | | " | 10.0 | | 94.1 | 82-128 | | 0.213 | 30 | |
| Trichlorofluoromethane | 11 | | " | 10.0 | | 108 | 67-139 | | 7.17 | 30 | |
| Vinyl Chloride | 11 | | " | 10.0 | | 107 | 58-145 | | 5.12 | 30 | |
| *Surrogate: SURR: 1,2-Dichloroethane-d4* | *10.1* | | *"* | *10.0* | | *101* | *69-130* | | | | |
| *Surrogate: SURR: Toluene-d8* | *9.61* | | *"* | *10.0* | | *96.1* | *81-117* | | | | |
| *Surrogate: SURR: p-Bromofluorobenzene* | *10.3* | | *"* | *10.0* | | *103* | *79-122* | | | | |
| **Batch BL91544 - EPA 5030B** | | | | | | | | | | | |
| **Blank (BL91544-BLK1)** | | | | | | | | | Prepared & Analyzed: 12/31/2019 | | |
| 1,1,1,2-Tetrachloroethane | ND | 0.50 | ug/L | | | | | | | | |
| 1,1,1-Trichloroethane | ND | 0.50 | " | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 0.50 | " | | | | | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | ND | 0.50 | " | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 0.50 | " | | | | | | | | |
| 1,1-Dichloroethane | ND | 0.50 | " | | | | | | | | |
| 1,1-Dichloroethylene | ND | 0.50 | " | | | | | | | | |
| 1,2,3-Trichlorobenzene | ND | 0.50 | " | | | | | | | | |
| 1,2,3-Trichloropropane | ND | 0.50 | " | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 0.50 | " | | | | | | | | |
| 1,2,4-Trimethylbenzene | ND | 0.50 | " | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | ND | 0.50 | " | | | | | | | | |
| 1,2-Dibromoethane | ND | 0.50 | " | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 0.50 | " | | | | | | | | |
| 1,2-Dichloroethane | ND | 0.50 | " | | | | | | | | |
| 1,2-Dichloropropane | ND | 0.50 | " | | | | | | | | |
| 1,3,5-Trimethylbenzene | ND | 0.50 | " | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 0.50 | " | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.50 | " | | | | | | | | |
| 1,4-Dioxane | ND | 40 | " | | | | | | | | |
| 2-Butanone | ND | 0.50 | " | | | | | | | | |
| 2-Hexanone | ND | 0.50 | " | | | | | | | | |
| 4-Methyl-2-pentanone | ND | 0.50 | " | | | | | | | | |
| Acetone | ND | 2.0 | " | | | | | | | | |
| Acrolein | ND | 0.50 | " | | | | | | | | |
| Acrylonitrile | ND | 0.50 | " | | | | | | | | |
| Benzene | ND | 0.50 | " | | | | | | | | |

## Volatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91544 - EPA 5030B** | | | | | | | | | | | |
| **Blank (BL91544-BLK1)** | | | | | | | | | | | |
| Prepared & Analyzed: 12/31/2019 | | | | | | | | | | | |
| Bromochloromethane | ND | 0.50 | ug/L | | | | | | | | |
| Bromodichloromethane | ND | 0.50 | " | | | | | | | | |
| Bromoform | ND | 0.50 | " | | | | | | | | |
| Bromomethane | ND | 0.50 | " | | | | | | | | |
| Carbon disulfide | ND | 0.50 | " | | | | | | | | |
| Carbon tetrachloride | ND | 0.50 | " | | | | | | | | |
| Chlorobenzene | ND | 0.50 | " | | | | | | | | |
| Chloroethane | ND | 0.50 | " | | | | | | | | |
| Chloroform | ND | 0.50 | " | | | | | | | | |
| Chloromethane | ND | 0.50 | " | | | | | | | | |
| cis-1,2-Dichloroethylene | ND | 0.50 | " | | | | | | | | |
| cis-1,3-Dichloropropylene | ND | 0.50 | " | | | | | | | | |
| Cyclohexane | ND | 0.50 | " | | | | | | | | |
| Dibromochloromethane | ND | 0.50 | " | | | | | | | | |
| Dibromomethane | ND | 0.50 | " | | | | | | | | |
| Dichlorodifluoromethane | ND | 0.50 | " | | | | | | | | |
| Ethyl Benzene | ND | 0.50 | " | | | | | | | | |
| Hexachlorobutadiene | ND | 0.50 | " | | | | | | | | |
| Isopropylbenzene | ND | 0.50 | " | | | | | | | | |
| Methyl acetate | ND | 0.50 | " | | | | | | | | |
| Methyl tert-butyl ether (MTBE) | ND | 0.50 | " | | | | | | | | |
| Methylcyclohexane | ND | 0.50 | " | | | | | | | | |
| Methylene chloride | ND | 2.0 | " | | | | | | | | |
| n-Butylbenzene | ND | 0.50 | " | | | | | | | | |
| n-Propylbenzene | ND | 0.50 | " | | | | | | | | |
| o-Xylene | ND | 0.50 | " | | | | | | | | |
| p- & m- Xylenes | ND | 1.0 | " | | | | | | | | |
| p-Isopropyltoluene | ND | 0.50 | " | | | | | | | | |
| sec-Butylbenzene | ND | 0.50 | " | | | | | | | | |
| Styrene | ND | 0.50 | " | | | | | | | | |
| tert-Butyl alcohol (TBA) | ND | 1.0 | " | | | | | | | | |
| tert-Butylbenzene | ND | 0.50 | " | | | | | | | | |
| Tetrachloroethylene | ND | 0.50 | " | | | | | | | | |
| Toluene | ND | 0.50 | " | | | | | | | | |
| trans-1,2-Dichloroethylene | ND | 0.50 | " | | | | | | | | |
| trans-1,3-Dichloropropylene | ND | 0.50 | " | | | | | | | | |
| trans-1,4-dichloro-2-butene | ND | 0.50 | " | | | | | | | | |
| Trichloroethylene | ND | 0.50 | " | | | | | | | | |
| Trichlorofluoromethane | ND | 0.50 | " | | | | | | | | |
| Vinyl Chloride | ND | 0.50 | " | | | | | | | | |
| Xylenes, Total | ND | 1.5 | " | | | | | | | | |
| *Surrogate: SURR: 1,2-Dichloroethane-d4* | *9.14* | | *"* | *10.0* | | *91.4* | *69-130* | | | | |
| *Surrogate: SURR: Toluene-d8* | *9.71* | | *"* | *10.0* | | *97.1* | *81-117* | | | | |
| *Surrogate: SURR: p-Bromofluorobenzene* | *9.84* | | *"* | *10.0* | | *98.4* | *79-122* | | | | |




## Volatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

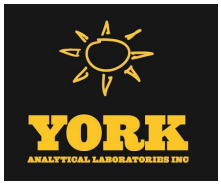
| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91544 - EPA 5030B** | | | | | | | | | | | |
| **LCS (BL91544-BS1)** | | | | | | | Prepared & Analyzed: 12/31/2019 | | | | |
| 1,1,1,2-Tetrachloroethane | 9.7 | | ug/L | 10.0 | | 97.1 | 82-126 | | | | |
| 1,1,1-Trichloroethane | 11 | | " | 10.0 | | 109 | 78-136 | | | | |
| 1,1,2,2-Tetrachloroethane | 9.8 | | " | 10.0 | | 98.2 | 76-129 | | | | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 12 | | " | 10.0 | | 118 | 54-165 | | | | |
| 1,1,2-Trichloroethane | 9.1 | | " | 10.0 | | 91.3 | 82-123 | | | | |
| 1,1-Dichloroethane | 10 | | " | 10.0 | | 103 | 82-129 | | | | |
| 1,1-Dichloroethylene | 11 | | " | 10.0 | | 113 | 68-138 | | | | |
| 1,2,3-Trichlorobenzene | 9.2 | | " | 10.0 | | 91.8 | 76-136 | | | | |
| 1,2,3-Trichloropropane | 9.2 | | " | 10.0 | | 92.5 | 77-128 | | | | |
| 1,2,4-Trichlorobenzene | 9.6 | | " | 10.0 | | 95.6 | 76-137 | | | | |
| 1,2,4-Trimethylbenzene | 11 | | " | 10.0 | | 106 | 82-132 | | | | |
| 1,2-Dibromo-3-chloropropane | 8.5 | | " | 10.0 | | 84.6 | 45-147 | | | | |
| 1,2-Dibromoethane | 9.1 | | " | 10.0 | | 91.4 | 83-124 | | | | |
| 1,2-Dichlorobenzene | 9.9 | | " | 10.0 | | 98.9 | 79-123 | | | | |
| 1,2-Dichloroethane | 9.0 | | " | 10.0 | | 90.4 | 73-132 | | | | |
| 1,2-Dichloropropane | 9.9 | | " | 10.0 | | 98.9 | 78-126 | | | | |
| 1,3,5-Trimethylbenzene | 11 | | " | 10.0 | | 108 | 80-131 | | | | |
| 1,3-Dichlorobenzene | 10 | | " | 10.0 | | 104 | 86-122 | | | | |
| 1,4-Dichlorobenzene | 10 | | " | 10.0 | | 103 | 85-124 | | | | |
| 1,4-Dioxane | 200 | | " | 210 | | 95.0 | 10-349 | | | | |
| 2-Butanone | 7.8 | | " | 10.0 | | 78.1 | 49-152 | | | | |
| 2-Hexanone | 7.2 | | " | 10.0 | | 72.3 | 51-146 | | | | |
| 4-Methyl-2-pentanone | 8.2 | | " | 10.0 | | 82.3 | 57-145 | | | | |
| Acetone | 5.8 | | " | 10.0 | | 57.7 | 14-150 | | | | |
| Acrolein | 6.5 | | " | 10.0 | | 65.2 | 10-153 | | | | |
| Acrylonitrile | 8.6 | | " | 10.0 | | 86.2 | 51-150 | | | | |
| Benzene | 11 | | " | 10.0 | | 109 | 85-126 | | | | |
| Bromochloromethane | 9.8 | | " | 10.0 | | 98.4 | 77-128 | | | | |
| Bromodichloromethane | 9.7 | | " | 10.0 | | 97.0 | 79-128 | | | | |
| Bromoform | 8.9 | | " | 10.0 | | 89.3 | 78-133 | | | | |
| Bromomethane | 6.3 | | " | 10.0 | | 63.3 | 43-168 | | | | |
| Carbon disulfide | 12 | | " | 10.0 | | 118 | 68-146 | | | | |
| Carbon tetrachloride | 10 | | " | 10.0 | | 105 | 77-141 | | | | |
| Chlorobenzene | 10 | | " | 10.0 | | 101 | 88-120 | | | | |
| Chloroethane | 12 | | " | 10.0 | | 115 | 65-136 | | | | |
| Chloroform | 10 | | " | 10.0 | | 100 | 82-128 | | | | |
| Chloromethane | 9.7 | | " | 10.0 | | 97.2 | 43-155 | | | | |
| cis-1,2-Dichloroethylene | 9.8 | | " | 10.0 | | 98.3 | 83-129 | | | | |
| cis-1,3-Dichloropropylene | 9.3 | | " | 10.0 | | 92.7 | 80-131 | | | | |
| Cyclohexane | 11 | | " | 10.0 | | 111 | 63-149 | | | | |
| Dibromochloromethane | 9.4 | | " | 10.0 | | 94.0 | 80-130 | | | | |
| Dibromomethane | 8.9 | | " | 10.0 | | 89.4 | 72-134 | | | | |
| Dichlorodifluoromethane | 14 | | " | 10.0 | | 137 | 44-144 | | | | |
| Ethyl Benzene | 11 | | " | 10.0 | | 106 | 80-131 | | | | |
| Hexachlorobutadiene | 8.4 | | " | 10.0 | | 84.0 | 67-146 | | | | |
| Isopropylbenzene | 11 | | " | 10.0 | | 109 | 76-140 | | | | |
| Methyl acetate | 6.4 | | " | 10.0 | | 64.3 | 51-139 | | | | |
| Methyl tert-butyl ether (MTBE) | 9.3 | | " | 10.0 | | 93.4 | 76-135 | | | | |
| Methylcyclohexane | 11 | | " | 10.0 | | 108 | 72-143 | | | | |
| Methylene chloride | 10 | | " | 10.0 | | 104 | 55-137 | | | | |

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91544 - EPA 5030B** | | | | | | | | | | | |
| **LCS (BL91544-BS1)** | | | | | | | | Prepared & Analyzed: 12/31/2019 | | | |
| n-Butylbenzene | 9.4 | | ug/L | 10.0 | | 93.6 | 79-132 | | | | |
| n-Propylbenzene | 11 | | " | 10.0 | | 107 | 78-133 | | | | |
| o-Xylene | 10 | | " | 10.0 | | 104 | 78-130 | | | | |
| p- & m- Xylenes | 21 | | " | 20.0 | | 106 | 77-133 | | | | |
| p-Isopropyltoluene | 11 | | " | 10.0 | | 109 | 81-136 | | | | |
| sec-Butylbenzene | 11 | | " | 10.0 | | 111 | 79-137 | | | | |
| Styrene | 10 | | " | 10.0 | | 105 | 67-132 | | | | |
| tert-Butyl alcohol (TBA) | 25 | | " | 50.0 | | 49.8 | 25-162 | | | | |
| tert-Butylbenzene | 11 | | " | 10.0 | | 106 | 77-138 | | | | |
| Tetrachloroethylene | 6.7 | | " | 10.0 | | 67.4 | 82-131 | Low Bias | | | |
| Toluene | 11 | | " | 10.0 | | 107 | 80-127 | | | | |
| trans-1,2-Dichloroethylene | 11 | | " | 10.0 | | 114 | 80-132 | | | | |
| trans-1,3-Dichloropropylene | 8.6 | | " | 10.0 | | 85.5 | 78-131 | | | | |
| trans-1,4-dichloro-2-butene | 9.8 | | " | 10.0 | | 98.4 | 63-141 | | | | |
| Trichloroethylene | 10 | | " | 10.0 | | 104 | 82-128 | | | | |
| Trichlorofluoromethane | 11 | | " | 10.0 | | 113 | 67-139 | | | | |
| Vinyl Chloride | 10 | | " | 10.0 | | 103 | 58-145 | | | | |
| *Surrogate: SURR: 1,2-Dichloroethane-d4* | *8.52* | | *"* | *10.0* | | *85.2* | *69-130* | | | | |
| *Surrogate: SURR: Toluene-d8* | *10.0* | | *"* | *10.0* | | *100* | *81-117* | | | | |
| *Surrogate: SURR: p-Bromofluorobenzene* | *10.6* | | *"* | *10.0* | | *106* | *79-122* | | | | |
| **LCS Dup (BL91544-BSD1)** | | | | | | | | Prepared & Analyzed: 12/31/2019 | | | |
| 1,1,1,2-Tetrachloroethane | 9.9 | | ug/L | 10.0 | | 99.1 | 82-126 | | 2.04 | 30 | |
| 1,1,1-Trichloroethane | 11 | | " | 10.0 | | 106 | 78-136 | | 2.97 | 30 | |
| 1,1,2,2-Tetrachloroethane | 10 | | " | 10.0 | | 103 | 76-129 | | 4.87 | 30 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 11 | | " | 10.0 | | 115 | 54-165 | | 2.32 | 30 | |
| 1,1,2-Trichloroethane | 9.6 | | " | 10.0 | | 96.4 | 82-123 | | 5.43 | 30 | |
| 1,1-Dichloroethane | 10 | | " | 10.0 | | 102 | 82-129 | | 1.08 | 30 | |
| 1,1-Dichloroethylene | 11 | | " | 10.0 | | 110 | 68-138 | | 2.79 | 30 | |
| 1,2,3-Trichlorobenzene | 9.9 | | " | 10.0 | | 99.0 | 76-136 | | 7.55 | 30 | |
| 1,2,3-Trichloropropane | 9.8 | | " | 10.0 | | 97.7 | 77-128 | | 5.47 | 30 | |
| 1,2,4-Trichlorobenzene | 9.4 | | " | 10.0 | | 93.5 | 76-137 | | 2.22 | 30 | |
| 1,2,4-Trimethylbenzene | 9.9 | | " | 10.0 | | 98.6 | 82-132 | | 6.95 | 30 | |
| 1,2-Dibromo-3-chloropropane | 9.0 | | " | 10.0 | | 90.5 | 45-147 | | 6.74 | 30 | |
| 1,2-Dibromoethane | 9.9 | | " | 10.0 | | 99.3 | 83-124 | | 8.29 | 30 | |
| 1,2-Dichlorobenzene | 9.4 | | " | 10.0 | | 94.1 | 79-123 | | 4.97 | 30 | |
| 1,2-Dichloroethane | 9.7 | | " | 10.0 | | 96.8 | 73-132 | | 6.84 | 30 | |
| 1,2-Dichloropropane | 9.8 | | " | 10.0 | | 98.5 | 78-126 | | 0.405 | 30 | |
| 1,3,5-Trimethylbenzene | 10 | | " | 10.0 | | 100 | 80-131 | | 7.78 | 30 | |
| 1,3-Dichlorobenzene | 9.6 | | " | 10.0 | | 96.4 | 86-122 | | 7.30 | 30 | |
| 1,4-Dichlorobenzene | 9.6 | | " | 10.0 | | 95.8 | 85-124 | | 7.34 | 30 | |
| 1,4-Dioxane | 110 | | " | 210 | | 53.8 | 10-349 | | 55.3 | 30 | Non-dir. |
| 2-Butanone | 9.3 | | " | 10.0 | | 93.1 | 49-152 | | 17.5 | 30 | |
| 2-Hexanone | 8.6 | | " | 10.0 | | 86.3 | 51-146 | | 17.7 | 30 | |
| 4-Methyl-2-pentanone | 9.7 | | " | 10.0 | | 96.9 | 57-145 | | 16.3 | 30 | |
| Acetone | 6.9 | | " | 10.0 | | 69.1 | 14-150 | | 18.0 | 30 | |
| Acrolein | 7.1 | | " | 10.0 | | 70.8 | 10-153 | | 8.24 | 30 | |
| Acrylonitrile | 9.8 | | " | 10.0 | | 98.5 | 51-150 | | 13.3 | 30 | |
| Benzene | 11 | | " | 10.0 | | 108 | 85-126 | | 0.828 | 30 | |
| Bromochloromethane | 10 | | " | 10.0 | | 101 | 77-128 | | 2.41 | 30 | |

## Volatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91544 - EPA 5030B** | | | | | | | | | | | |
| **LCS Dup (BL91544-BSD1)** | | | | | | | | Prepared & Analyzed: 12/31/2019 | | | |
| Bromodichloromethane | 9.8 | | ug/L | 10.0 | | 98.0 | 79-128 | | 1.03 | 30 | |
| Bromoform | 9.8 | | " | 10.0 | | 97.9 | 78-133 | | 9.19 | 30 | |
| Bromomethane | 6.9 | | " | 10.0 | | 69.2 | 43-168 | | 8.91 | 30 | |
| Carbon disulfide | 11 | | " | 10.0 | | 113 | 68-146 | | 3.81 | 30 | |
| Carbon tetrachloride | 10 | | " | 10.0 | | 102 | 77-141 | | 2.32 | 30 | |
| Chlorobenzene | 9.8 | | " | 10.0 | | 97.6 | 88-120 | | 3.13 | 30 | |
| Chloroethane | 11 | | " | 10.0 | | 111 | 65-136 | | 3.53 | 30 | |
| Chloroform | 10 | | " | 10.0 | | 101 | 82-128 | | 0.992 | 30 | |
| Chloromethane | 9.4 | | " | 10.0 | | 93.6 | 43-155 | | 3.77 | 30 | |
| cis-1,2-Dichloroethylene | 9.9 | | " | 10.0 | | 99.3 | 83-129 | | 1.01 | 30 | |
| cis-1,3-Dichloropropylene | 9.4 | | " | 10.0 | | 94.0 | 80-131 | | 1.39 | 30 | |
| Cyclohexane | 11 | | " | 10.0 | | 109 | 63-149 | | 1.72 | 30 | |
| Dibromochloromethane | 9.9 | | " | 10.0 | | 99.0 | 80-130 | | 5.18 | 30 | |
| Dibromomethane | 9.7 | | " | 10.0 | | 97.4 | 72-134 | | 8.57 | 30 | |
| Dichlorodifluoromethane | 13 | | " | 10.0 | | 133 | 44-144 | | 3.25 | 30 | |
| Ethyl Benzene | 10 | | " | 10.0 | | 102 | 80-131 | | 3.45 | 30 | |
| Hexachlorobutadiene | 8.3 | | " | 10.0 | | 82.6 | 67-146 | | 1.68 | 30 | |
| Isopropylbenzene | 9.8 | | " | 10.0 | | 98.1 | 76-140 | | 10.7 | 30 | |
| Methyl acetate | 7.5 | | " | 10.0 | | 75.0 | 51-139 | | 15.4 | 30 | |
| Methyl tert-butyl ether (MTBE) | 11 | | " | 10.0 | | 106 | 76-135 | | 12.7 | 30 | |
| Methylcyclohexane | 10 | | " | 10.0 | | 103 | 72-143 | | 5.13 | 30 | |
| Methylene chloride | 11 | | " | 10.0 | | 106 | 55-137 | | 1.24 | 30 | |
| n-Butylbenzene | 8.6 | | " | 10.0 | | 86.1 | 79-132 | | 8.35 | 30 | |
| n-Propylbenzene | 9.8 | | " | 10.0 | | 98.2 | 78-133 | | 8.67 | 30 | |
| o-Xylene | 10 | | " | 10.0 | | 101 | 78-130 | | 2.92 | 30 | |
| p- & m- Xylenes | 21 | | " | 20.0 | | 103 | 77-133 | | 2.77 | 30 | |
| p-Isopropyltoluene | 10 | | " | 10.0 | | 101 | 81-136 | | 7.52 | 30 | |
| sec-Butylbenzene | 10 | | " | 10.0 | | 103 | 79-137 | | 7.19 | 30 | |
| Styrene | 10 | | " | 10.0 | | 103 | 67-132 | | 1.25 | 30 | |
| tert-Butyl alcohol (TBA) | 38 | | " | 50.0 | | 76.1 | 25-162 | | 41.8 | 30 | Non-dir. |
| tert-Butylbenzene | 9.8 | | " | 10.0 | | 97.5 | 77-138 | | 8.54 | 30 | |
| Tetrachloroethylene | 6.3 | | " | 10.0 | | 63.2 | 82-131 | Low Bias | 6.43 | 30 | |
| Toluene | 10 | | " | 10.0 | | 103 | 80-127 | | 4.00 | 30 | |
| trans-1,2-Dichloroethylene | 11 | | " | 10.0 | | 111 | 80-132 | | 2.13 | 30 | |
| trans-1,3-Dichloropropylene | 8.9 | | " | 10.0 | | 89.2 | 78-131 | | 4.24 | 30 | |
| trans-1,4-dichloro-2-butene | 9.3 | | " | 10.0 | | 92.6 | 63-141 | | 6.07 | 30 | |
| Trichloroethylene | 9.7 | | " | 10.0 | | 97.1 | 82-128 | | 6.38 | 30 | |
| Trichlorofluoromethane | 11 | | " | 10.0 | | 109 | 67-139 | | 3.70 | 30 | |
| Vinyl Chloride | 10 | | " | 10.0 | | 101 | 58-145 | | 2.26 | 30 | |
| *Surrogate: SURR: 1,2-Dichloroethane-d4* | *9.48* | | *"* | *10.0* | | *94.8* | *69-130* | | | | |
| *Surrogate: SURR: Toluene-d8* | *9.88* | | *"* | *10.0* | | *98.8* | *81-117* | | | | |
| *Surrogate: SURR: p-Bromofluorobenzene* | *10.3* | | *"* | *10.0* | | *103* | *79-122* | | | | |

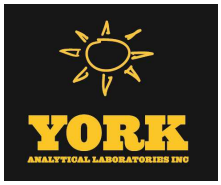



## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91416 - EPA 3510C** | | | | | | | | | | | |
| **Blank (BL91416-BLK1)** | | | | | | | | | | | |
| 1,1-Biphenyl | ND | 5.00 | ug/L | | | | | | | | |
| 1,1-Biphenyl | ND | 5.00 | " | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ND | 5.00 | " | | | | | | | | |
| 1,2,4,5-Tetrachlorobenzene | ND | 5.00 | " | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.00 | " | | | | | | | | |
| 1,2,4-Trichlorobenzene | ND | 5.00 | " | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.00 | " | | | | | | | | |
| 1,2-Dichlorobenzene | ND | 5.00 | " | | | | | | | | |
| 1,2-Diphenylhydrazine (as Azobenzene) | ND | 5.00 | " | | | | | | | | |
| 1,2-Diphenylhydrazine (as Azobenzene) | ND | 5.00 | " | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.00 | " | | | | | | | | |
| 1,3-Dichlorobenzene | ND | 5.00 | " | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.00 | " | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 5.00 | " | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ND | 5.00 | " | | | | | | | | |
| 2,3,4,6-Tetrachlorophenol | ND | 5.00 | " | | | | | | | | |
| 2,4,5-Trichlorophenol | ND | 5.00 | " | | | | | | | | |
| 2,4,5-Trichlorophenol | ND | 5.00 | " | | | | | | | | |
| 2,4,6-Trichlorophenol | ND | 5.00 | " | | | | | | | | |
| 2,4,6-Trichlorophenol | ND | 5.00 | " | | | | | | | | |
| 2,4-Dichlorophenol | ND | 5.00 | " | | | | | | | | |
| 2,4-Dichlorophenol | ND | 5.00 | " | | | | | | | | |
| 2,4-Dimethylphenol | ND | 5.00 | " | | | | | | | | |
| 2,4-Dimethylphenol | ND | 5.00 | " | | | | | | | | |
| 2,4-Dinitrophenol | ND | 5.00 | " | | | | | | | | |
| 2,4-Dinitrophenol | ND | 5.00 | " | | | | | | | | |
| 2,4-Dinitrotoluene | ND | 5.00 | " | | | | | | | | |
| 2,4-Dinitrotoluene | ND | 5.00 | " | | | | | | | | |
| 2,6-Dinitrotoluene | ND | 5.00 | " | | | | | | | | |
| 2,6-Dinitrotoluene | ND | 5.00 | " | | | | | | | | |
| 2-Chloronaphthalene | ND | 5.00 | " | | | | | | | | |
| 2-Chloronaphthalene | ND | 5.00 | " | | | | | | | | |
| 2-Chlorophenol | ND | 5.00 | " | | | | | | | | |
| 2-Chlorophenol | ND | 5.00 | " | | | | | | | | |
| 2-Methylnaphthalene | ND | 5.00 | " | | | | | | | | |
| 2-Methylnaphthalene | ND | 5.00 | " | | | | | | | | |
| 2-Methylphenol | ND | 5.00 | " | | | | | | | | |
| 2-Methylphenol | ND | 5.00 | " | | | | | | | | |
| 2-Nitroaniline | ND | 5.00 | " | | | | | | | | |
| 2-Nitroaniline | ND | 5.00 | " | | | | | | | | |
| 2-Nitrophenol | ND | 5.00 | " | | | | | | | | |
| 2-Nitrophenol | ND | 5.00 | " | | | | | | | | |
| 3- & 4-Methylphenols | ND | 5.00 | " | | | | | | | | |
| 3- & 4-Methylphenols | ND | 5.00 | " | | | | | | | | |
| 3,3-Dichlorobenzidine | ND | 5.00 | " | | | | | | | | |
| 3,3-Dichlorobenzidine | ND | 5.00 | " | | | | | | | | |
| 3-Nitroaniline | ND | 5.00 | " | | | | | | | | |
| 3-Nitroaniline | ND | 5.00 | " | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ND | 5.00 | " | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ND | 5.00 | " | | | | | | | | |
| 4-Bromophenyl phenyl ether | ND | 5.00 | " | | | | | | | | |

Prepared: 12/26/2019 Analyzed: 12/27/2019




## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91416 - EPA 3510C** | | | | | | | | | | | |
| **Blank (BL91416-BLK1)** | | | | | | | | | | | |
| 4-Bromophenyl phenyl ether | ND | 5.00 | ug/L | | | | | | | | |
| 4-Chloro-3-methylphenol | ND | 5.00 | " | | | | | | | | |
| 4-Chloro-3-methylphenol | ND | 5.00 | " | | | | | | | | |
| 4-Chloroaniline | ND | 5.00 | " | | | | | | | | |
| 4-Chloroaniline | ND | 5.00 | " | | | | | | | | |
| 4-Chlorophenyl phenyl ether | ND | 5.00 | " | | | | | | | | |
| 4-Chlorophenyl phenyl ether | ND | 5.00 | " | | | | | | | | |
| 4-Nitroaniline | ND | 5.00 | " | | | | | | | | |
| 4-Nitroaniline | ND | 5.00 | " | | | | | | | | |
| 4-Nitrophenol | ND | 5.00 | " | | | | | | | | |
| 4-Nitrophenol | ND | 5.00 | " | | | | | | | | |
| Acenaphthene | ND | 5.00 | " | | | | | | | | |
| Acenaphthylene | ND | 5.00 | " | | | | | | | | |
| Acetophenone | ND | 5.00 | " | | | | | | | | |
| Acetophenone | ND | 5.00 | " | | | | | | | | |
| Alpha Terpineol | ND | 10.0 | " | | | | | | | | |
| Alpha Terpineol | ND | 10.0 | " | | | | | | | | |
| Aniline | ND | 5.00 | " | | | | | | | | |
| Aniline | ND | 5.00 | " | | | | | | | | |
| Anthracene | ND | 5.00 | " | | | | | | | | |
| Atrazine | ND | 5.00 | " | | | | | | | | |
| Benzaldehyde | ND | 5.00 | " | | | | | | | | |
| Benzaldehyde | ND | 5.00 | " | | | | | | | | |
| Benzidine | ND | 5.00 | " | | | | | | | | |
| Benzidine | ND | 5.00 | " | | | | | | | | |
| Benzo(a)anthracene | ND | 5.00 | " | | | | | | | | |
| Benzo(a)pyrene | ND | 5.00 | " | | | | | | | | |
| Benzo(b)fluoranthene | ND | 5.00 | " | | | | | | | | |
| Benzo(g,h,i)perylene | ND | 5.00 | " | | | | | | | | |
| Benzo(k)fluoranthene | ND | 5.00 | " | | | | | | | | |
| Benzoic acid | ND | 5.00 | " | | | | | | | | |
| Benzoic acid | ND | 50.0 | " | | | | | | | | |
| Benzyl alcohol | ND | 5.00 | " | | | | | | | | |
| Benzyl alcohol | ND | 5.00 | " | | | | | | | | |
| Benzyl butyl phthalate | ND | 5.00 | " | | | | | | | | |
| Benzyl butyl phthalate | ND | 5.00 | " | | | | | | | | |
| Bis(2-chloroethoxy)methane | ND | 5.00 | " | | | | | | | | |
| Bis(2-chloroethoxy)methane | ND | 5.00 | " | | | | | | | | |
| Bis(2-chloroethyl)ether | ND | 5.00 | " | | | | | | | | |
| Bis(2-chloroethyl)ether | ND | 5.00 | " | | | | | | | | |
| Bis(2-chloroisopropyl)ether | ND | 5.00 | " | | | | | | | | |
| Bis(2-chloroisopropyl)ether | ND | 5.00 | " | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | ND | 5.00 | " | | | | | | | | |
| Caprolactam | ND | 5.00 | " | | | | | | | | |
| Caprolactam | ND | 5.00 | " | | | | | | | | |
| Carbazole | ND | 5.00 | " | | | | | | | | |
| Carbazole | ND | 5.00 | " | | | | | | | | |
| Chrysene | ND | 5.00 | " | | | | | | | | |
| Dibenzo(a,h)anthracene | ND | 5.00 | " | | | | | | | | |
| Dibenzofuran | ND | 5.00 | " | | | | | | | | |
| Dibenzofuran | ND | 5.00 | " | | | | | | | | |

Prepared: 12/26/2019 Analyzed: 12/27/2019

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91416 - EPA 3510C** | | | | | | | | | | | |
| **Blank (BL91416-BLK1)** | | | | | | | | | | | |
| Prepared: 12/26/2019 Analyzed: 12/27/2019 | | | | | | | | | | | |
| Diethyl phthalate | ND | 5.00 | ug/L | | | | | | | | |
| Diethyl phthalate | ND | 5.00 | " | | | | | | | | |
| Dimethyl phthalate | ND | 5.00 | " | | | | | | | | |
| Dimethyl phthalate | ND | 5.00 | " | | | | | | | | |
| Di-n-butyl phthalate | ND | 5.00 | " | | | | | | | | |
| Di-n-butyl phthalate | ND | 5.00 | " | | | | | | | | |
| Di-n-octyl phthalate | ND | 5.00 | " | | | | | | | | |
| Di-n-octyl phthalate | ND | 5.00 | " | | | | | | | | |
| Fluoranthene | ND | 5.00 | " | | | | | | | | |
| Fluorene | ND | 5.00 | " | | | | | | | | |
| Hexachlorobenzene | ND | 5.00 | " | | | | | | | | |
| Hexachlorobutadiene | ND | 5.00 | " | | | | | | | | |
| Hexachlorocyclopentadiene | ND | 10.0 | " | | | | | | | | |
| Hexachlorocyclopentadiene | ND | 10.0 | " | | | | | | | | |
| Hexachloroethane | ND | 2.50 | " | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 5.00 | " | | | | | | | | |
| Isophorone | ND | 5.00 | " | | | | | | | | |
| Isophorone | ND | 5.00 | " | | | | | | | | |
| Naphthalene | ND | 5.00 | " | | | | | | | | |
| Nitrobenzene | ND | 5.00 | " | | | | | | | | |
| N-Nitrosodimethylamine | ND | 5.00 | " | | | | | | | | |
| N-nitroso-di-n-propylamine | ND | 5.00 | " | | | | | | | | |
| N-nitroso-di-n-propylamine | ND | 5.00 | " | | | | | | | | |
| N-Nitrosodiphenylamine | ND | 5.00 | " | | | | | | | | |
| N-Nitrosodiphenylamine | ND | 5.00 | " | | | | | | | | |
| Pentachlorophenol | ND | 5.00 | " | | | | | | | | |
| Phenanthrene | ND | 5.00 | " | | | | | | | | |
| Phenol | ND | 5.00 | " | | | | | | | | |
| Phenol | ND | 5.00 | " | | | | | | | | |
| Pyrene | ND | 5.00 | " | | | | | | | | |
| *Surrogate: SURR: 2-Fluorophenol* | *20.2* | | *"* | *50.0* | | *40.5* | *19.7-63.1* | | | | |
| *Surrogate: SURR: 2-Fluorophenol* | *20.2* | | *"* | *50.0* | | *40.5* | *19.7-63.1* | | | | |
| *Surrogate: SURR: Phenol-d5* | *11.8* | | *"* | *50.0* | | *23.7* | *10.1-41.7* | | | | |
| *Surrogate: SURR: Phenol-d5* | *11.8* | | *"* | *50.0* | | *23.7* | *10.1-41.7* | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *21.2* | | *"* | *25.0* | | *84.8* | *50.2-113* | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *21.2* | | *"* | *25.0* | | *84.8* | *50.2-113* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *21.1* | | *"* | *25.0* | | *84.2* | *39.9-105* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *21.1* | | *"* | *25.0* | | *84.2* | *39.9-105* | | | | |
| *Surrogate: SURR: 2,4,6-Tribromophenol* | *47.9* | | *"* | *50.0* | | *95.9* | *39.3-151* | | | | |
| *Surrogate: SURR: 2,4,6-Tribromophenol* | *47.9* | | *"* | *50.0* | | *95.9* | *39.3-151* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *20.9* | | *"* | *25.0* | | *83.6* | *30.7-106* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *20.9* | | *"* | *25.0* | | *83.6* | *30.7-106* | | | | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91416 - EPA 3510C** | | | | | | | | | | | |
| **Blank (BL91416-BLK2)** | | | | | | | | | | | Prepared: 12/26/2019 Analyzed: 12/27/2019 |
| Acenaphthene | ND | 0.0500 | ug/L | | | | | | | | |
| Acenaphthylene | ND | 0.0500 | " | | | | | | | | |
| Anthracene | ND | 0.0500 | " | | | | | | | | |
| Atrazine | ND | 0.500 | " | | | | | | | | |
| Benzo(a)anthracene | ND | 0.0500 | " | | | | | | | | |
| Benzo(a)pyrene | ND | 0.0500 | " | | | | | | | | |
| Benzo(b)fluoranthene | ND | 0.0500 | " | | | | | | | | |
| Benzo(g,h,i)perylene | ND | 0.0500 | " | | | | | | | | |
| Benzo(k)fluoranthene | ND | 0.0500 | " | | | | | | | | |
| Bis(2-ethylhexyl)phthalate | ND | 0.500 | " | | | | | | | | |
| Chrysene | ND | 0.0500 | " | | | | | | | | |
| Dibenzo(a,h)anthracene | ND | 0.0500 | " | | | | | | | | |
| Fluoranthene | ND | 0.0500 | " | | | | | | | | |
| Fluorene | ND | 0.0500 | " | | | | | | | | |
| Hexachlorobenzene | ND | 0.0200 | " | | | | | | | | |
| Hexachlorobutadiene | ND | 0.500 | " | | | | | | | | |
| Hexachloroethane | ND | 0.500 | " | | | | | | | | |
| Indeno(1,2,3-cd)pyrene | ND | 0.0500 | " | | | | | | | | |
| Naphthalene | ND | 0.0500 | " | | | | | | | | |
| Nitrobenzene | ND | 0.250 | " | | | | | | | | |
| N-Nitrosodimethylamine | ND | 0.500 | " | | | | | | | | |
| Pentachlorophenol | ND | 0.250 | " | | | | | | | | |
| Phenanthrene | ND | 0.0500 | " | | | | | | | | |
| Pyrene | ND | 0.0500 | " | | | | | | | | |
| **LCS (BL91416-BS1)** | | | | | | | | | | | Prepared: 12/26/2019 Analyzed: 12/27/2019 |
| 1,1-Biphenyl | 19.9 | 5.00 | ug/L | 25.0 | | 79.5 | 33-95 | | | | |
| 1,1-Biphenyl | 19.9 | 5.00 | " | 25.0 | | 79.5 | 33-95 | | | | |
| 1,2,4,5-Tetrachlorobenzene | 20.3 | 5.00 | " | 25.2 | | 80.4 | 26-120 | | | | |
| 1,2,4,5-Tetrachlorobenzene | 20.3 | 5.00 | " | 25.2 | | 80.4 | 26-120 | | | | |
| 1,2,4-Trichlorobenzene | 20.3 | 5.00 | " | 25.0 | | 81.4 | 20-118 | | | | |
| 1,2,4-Trichlorobenzene | 20.3 | 5.00 | " | 25.0 | | 81.4 | 20-118 | | | | |
| 1,2-Dichlorobenzene | 17.8 | 5.00 | " | 25.0 | | 71.3 | 29-111 | | | | |
| 1,2-Dichlorobenzene | 17.8 | 5.00 | " | 25.0 | | 71.3 | 29-111 | | | | |
| 1,2-Diphenylhydrazine (as Azobenzene) | 18.2 | 5.00 | " | 25.0 | | 72.7 | 16-141 | | | | |
| 1,2-Diphenylhydrazine (as Azobenzene) | 18.2 | 5.00 | " | 25.0 | | 72.7 | 16-141 | | | | |
| 1,3-Dichlorobenzene | 17.6 | 5.00 | " | 25.0 | | 70.2 | 23-117 | | | | |
| 1,3-Dichlorobenzene | 17.6 | 5.00 | " | 25.0 | | 70.2 | 23-117 | | | | |
| 1,4-Dichlorobenzene | 18.0 | 5.00 | " | 25.0 | | 72.0 | 30-105 | | | | |
| 1,4-Dichlorobenzene | 18.0 | 5.00 | " | 25.0 | | 72.0 | 30-105 | | | | |
| 2,3,4,6-Tetrachlorophenol | 20.9 | 5.00 | " | 25.0 | | 83.7 | 30-130 | | | | |
| 2,3,4,6-Tetrachlorophenol | 20.9 | 5.00 | " | 25.0 | | 83.7 | 30-130 | | | | |
| 2,4,5-Trichlorophenol | 17.5 | 5.00 | " | 25.0 | | 70.0 | 32-114 | | | | |
| 2,4,5-Trichlorophenol | 17.5 | 5.00 | " | 25.0 | | 70.0 | 32-114 | | | | |
| 2,4,6-Trichlorophenol | 20.9 | 5.00 | " | 25.0 | | 83.6 | 35-118 | | | | |
| 2,4,6-Trichlorophenol | 20.9 | 5.00 | " | 25.0 | | 83.6 | 35-118 | | | | |
| 2,4-Dichlorophenol | 21.0 | 5.00 | " | 25.0 | | 84.1 | 25-116 | | | | |
| 2,4-Dichlorophenol | 21.0 | 5.00 | " | 25.0 | | 84.1 | 25-116 | | | | |
| 2,4-Dimethylphenol | 16.4 | 5.00 | " | 25.0 | | 65.7 | 15-116 | | | | |
| 2,4-Dimethylphenol | 16.4 | 5.00 | " | 25.0 | | 65.7 | 15-116 | | | | |
| 2,4-Dinitrophenol | 23.4 | 5.00 | " | 25.0 | | 93.5 | 10-170 | | | | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91416 - EPA 3510C** | | | | | | | | | | | |
| **LCS (BL91416-BS1)** | | | | | | | | | Prepared: 12/26/2019 Analyzed: 12/27/2019 | | |
| 2,4-Dinitrophenol | 23.4 | 5.00 | ug/L | 25.0 | | 93.5 | 10-170 | | | | |
| 2,4-Dinitrotoluene | 21.0 | 5.00 | " | 25.0 | | 83.8 | 41-128 | | | | |
| 2,4-Dinitrotoluene | 21.0 | 5.00 | " | 25.0 | | 83.8 | 41-128 | | | | |
| 2,6-Dinitrotoluene | 21.8 | 5.00 | " | 25.0 | | 87.1 | 45-116 | | | | |
| 2,6-Dinitrotoluene | 21.8 | 5.00 | " | 25.0 | | 87.1 | 45-116 | | | | |
| 2-Chloronaphthalene | 18.7 | 5.00 | " | 25.0 | | 75.0 | 33-112 | | | | |
| 2-Chloronaphthalene | 18.7 | 5.00 | " | 25.0 | | 75.0 | 33-112 | | | | |
| 2-Chlorophenol | 17.2 | 5.00 | " | 25.0 | | 68.8 | 15-120 | | | | |
| 2-Chlorophenol | 17.2 | 5.00 | " | 25.0 | | 68.8 | 15-120 | | | | |
| 2-Methylnaphthalene | 21.7 | 5.00 | " | 25.0 | | 86.6 | 24-118 | | | | |
| 2-Methylnaphthalene | 21.7 | 5.00 | " | 25.0 | | 86.6 | 24-118 | | | | |
| 2-Methylphenol | 12.5 | 5.00 | " | 25.0 | | 50.0 | 10-110 | | | | |
| 2-Methylphenol | 12.5 | 5.00 | " | 25.0 | | 50.0 | 10-110 | | | | |
| 2-Nitroaniline | 20.1 | 5.00 | " | 25.0 | | 80.4 | 34-129 | | | | |
| 2-Nitroaniline | 20.1 | 5.00 | " | 25.0 | | 80.4 | 34-129 | | | | |
| 2-Nitrophenol | 19.7 | 5.00 | " | 25.0 | | 78.6 | 28-118 | | | | |
| 2-Nitrophenol | 19.7 | 5.00 | " | 25.0 | | 78.6 | 28-118 | | | | |
| 3- & 4-Methylphenols | 10.5 | 5.00 | " | 25.0 | | 42.0 | 10-107 | | | | |
| 3- & 4-Methylphenols | 10.5 | 5.00 | " | 25.0 | | 42.0 | 10-107 | | | | |
| 3,3-Dichlorobenzidine | 18.3 | 5.00 | " | 25.0 | | 73.0 | 15-187 | | | | |
| 3,3-Dichlorobenzidine | 18.3 | 5.00 | " | 25.0 | | 73.0 | 15-187 | | | | |
| 3-Nitroaniline | 15.6 | 5.00 | " | 25.0 | | 62.4 | 24-134 | | | | |
| 3-Nitroaniline | 15.6 | 5.00 | " | 25.0 | | 62.4 | 24-134 | | | | |
| 4,6-Dinitro-2-methylphenol | 27.4 | 5.00 | " | 25.0 | | 110 | 10-153 | | | | |
| 4,6-Dinitro-2-methylphenol | 27.4 | 5.00 | " | 25.0 | | 110 | 10-153 | | | | |
| 4-Bromophenyl phenyl ether | 21.1 | 5.00 | " | 25.0 | | 84.4 | 34-120 | | | | |
| 4-Bromophenyl phenyl ether | 21.1 | 5.00 | " | 25.0 | | 84.4 | 34-120 | | | | |
| 4-Chloro-3-methylphenol | 19.6 | 5.00 | " | 25.0 | | 78.4 | 20-120 | | | | |
| 4-Chloro-3-methylphenol | 19.6 | 5.00 | " | 25.0 | | 78.4 | 20-120 | | | | |
| 4-Chloroaniline | 14.4 | 5.00 | " | 25.0 | | 57.5 | 10-147 | | | | |
| 4-Chloroaniline | 14.4 | 5.00 | " | 25.0 | | 57.5 | 10-147 | | | | |
| 4-Chlorophenyl phenyl ether | 20.3 | 5.00 | " | 25.0 | | 81.2 | 27-121 | | | | |
| 4-Chlorophenyl phenyl ether | 20.3 | 5.00 | " | 25.0 | | 81.2 | 27-121 | | | | |
| 4-Nitroaniline | 18.0 | 5.00 | " | 25.0 | | 72.1 | 13-134 | | | | |
| 4-Nitroaniline | 18.0 | 5.00 | " | 25.0 | | 72.1 | 13-134 | | | | |
| 4-Nitrophenol | 9.01 | 5.00 | " | 25.0 | | 36.0 | 10-131 | | | | |
| 4-Nitrophenol | 9.01 | 5.00 | " | 25.0 | | 36.0 | 10-131 | | | | |
| Acenaphthene | 19.5 | 5.00 | " | 25.0 | | 78.1 | 25-116 | | | | |
| Acenaphthylene | 18.5 | 5.00 | " | 25.0 | | 74.1 | 26-116 | | | | |
| Acetophenone | 19.6 | 5.00 | " | 25.0 | | 78.2 | 25-110 | | | | |
| Acetophenone | 19.6 | 5.00 | " | 25.0 | | 78.2 | 25-110 | | | | |
| Aniline | 8.85 | 5.00 | " | 25.0 | | 35.4 | 10-117 | | | | |
| Aniline | 8.85 | 5.00 | " | 25.0 | | 35.4 | 10-117 | | | | |
| Anthracene | 21.1 | 5.00 | " | 25.0 | | 84.4 | 25-123 | | | | |
| Atrazine | 19.4 | 5.00 | " | 25.0 | | 77.8 | 37-109 | | | | |
| Benzaldehyde | 22.6 | 5.00 | " | 25.0 | | 90.6 | 29-117 | | | | |
| Benzaldehyde | 22.6 | 5.00 | " | 25.0 | | 90.6 | 29-117 | | | | |
| Benzo(a)anthracene | 21.0 | 5.00 | " | 25.0 | | 83.9 | 33-125 | | | | |
| Benzo(a)pyrene | 23.8 | 5.00 | " | 25.0 | | 95.0 | 32-132 | | | | |
| Benzo(b)fluoranthene | 24.7 | 5.00 | " | 25.0 | | 98.7 | 22-137 | | | | |
| Benzo(g,h,i)perylene | 23.0 | 5.00 | " | 25.0 | | 92.0 | 10-138 | | | | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

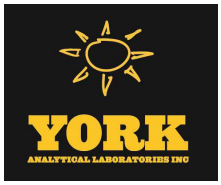
## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91416 - EPA 3510C** | | | | | | | | | | | |
| **LCS (BL91416-BS1)** | | | | | | | | Prepared: 12/26/2019 Analyzed: 12/27/2019 | | | |
| Benzo(k)fluoranthene | 21.4 | 5.00 | ug/L | 25.0 | | 85.6 | 20-137 | | | | |
| Benzoic acid | ND | 50.0 | " | 25.0 | | | 30-130 | Low Bias | | | |
| Benzoic acid | 4.50 | 5.00 | " | 25.0 | | 18.0 | 30-130 | Low Bias | | | |
| Benzyl alcohol | 13.3 | 5.00 | " | 25.0 | | 53.3 | 10-117 | | | | |
| Benzyl alcohol | 13.3 | 5.00 | " | 25.0 | | 53.3 | 10-117 | | | | |
| Benzyl butyl phthalate | 17.5 | 5.00 | " | 25.0 | | 69.9 | 29-133 | | | | |
| Benzyl butyl phthalate | 17.5 | 5.00 | " | 25.0 | | 69.9 | 29-133 | | | | |
| Bis(2-chloroethoxy)methane | 19.7 | 5.00 | " | 25.0 | | 78.6 | 10-154 | | | | |
| Bis(2-chloroethoxy)methane | 19.7 | 5.00 | " | 25.0 | | 78.6 | 10-154 | | | | |
| Bis(2-chloroethyl)ether | 19.3 | 5.00 | " | 25.0 | | 77.1 | 17-125 | | | | |
| Bis(2-chloroethyl)ether | 19.3 | 5.00 | " | 25.0 | | 77.1 | 17-125 | | | | |
| Bis(2-chloroisopropyl)ether | 22.9 | 5.00 | " | 25.0 | | 91.7 | 10-139 | | | | |
| Bis(2-chloroisopropyl)ether | 22.9 | 5.00 | " | 25.0 | | 91.7 | 10-139 | | | | |
| Bis(2-ethylhexyl)phthalate | 23.1 | 5.00 | " | 25.0 | | 92.6 | 10-189 | | | | |
| Caprolactam | 3.36 | 5.00 | " | 25.0 | | 13.4 | 10-137 | | | | |
| Caprolactam | 3.36 | 5.00 | " | 25.0 | | 13.4 | 10-137 | | | | |
| Carbazole | 19.9 | 5.00 | " | 25.0 | | 79.5 | 42-126 | | | | |
| Carbazole | 19.9 | 5.00 | " | 25.0 | | 79.5 | 42-126 | | | | |
| Chrysene | 21.2 | 5.00 | " | 25.0 | | 84.6 | 32-124 | | | | |
| Dibenzo(a,h)anthracene | 28.4 | 5.00 | " | 25.0 | | 114 | 16-133 | | | | |
| Dibenzofuran | 20.2 | 5.00 | " | 25.0 | | 80.6 | 36-113 | | | | |
| Dibenzofuran | 20.2 | 5.00 | " | 25.0 | | 80.6 | 36-113 | | | | |
| Diethyl phthalate | 19.2 | 5.00 | " | 25.0 | | 76.8 | 38-115 | | | | |
| Diethyl phthalate | 19.2 | 5.00 | " | 25.0 | | 76.8 | 38-115 | | | | |
| Dimethyl phthalate | 19.5 | 5.00 | " | 25.0 | | 78.1 | 38-129 | | | | |
| Dimethyl phthalate | 19.5 | 5.00 | " | 25.0 | | 78.1 | 38-129 | | | | |
| Di-n-butyl phthalate | 18.4 | 5.00 | " | 25.0 | | 73.8 | 31-120 | | | | |
| Di-n-butyl phthalate | 18.4 | 5.00 | " | 25.0 | | 73.8 | 31-120 | | | | |
| Di-n-octyl phthalate | 22.5 | 5.00 | " | 25.0 | | 90.0 | 21-149 | | | | |
| Di-n-octyl phthalate | 22.5 | 5.00 | " | 25.0 | | 90.0 | 21-149 | | | | |
| Fluoranthene | 21.8 | 5.00 | " | 25.0 | | 87.3 | 32-121 | | | | |
| Fluorene | 20.3 | 5.00 | " | 25.0 | | 81.2 | 28-118 | | | | |
| Hexachlorobenzene | 18.1 | 5.00 | " | 25.0 | | 72.3 | 23-124 | | | | |
| Hexachlorobutadiene | 20.9 | 5.00 | " | 25.0 | | 83.8 | 15-123 | | | | |
| Hexachlorocyclopentadiene | 15.5 | 10.0 | " | 25.0 | | 61.8 | 10-130 | | | | |
| Hexachlorocyclopentadiene | 15.5 | 10.0 | " | 25.0 | | 61.8 | 10-130 | | | | |
| Hexachloroethane | 16.8 | 2.50 | " | 25.0 | | 67.3 | 18-115 | | | | |
| Indeno(1,2,3-cd)pyrene | 24.6 | 5.00 | " | 25.0 | | 98.3 | 15-135 | | | | |
| Isophorone | 20.8 | 5.00 | " | 25.0 | | 83.3 | 25-127 | | | | |
| Isophorone | 20.8 | 5.00 | " | 25.0 | | 83.3 | 25-127 | | | | |
| Naphthalene | 20.1 | 5.00 | " | 25.0 | | 80.5 | 18-120 | | | | |
| Nitrobenzene | 19.3 | 5.00 | " | 25.0 | | 77.4 | 21-121 | | | | |
| N-Nitrosodimethylamine | 8.47 | 5.00 | " | 25.0 | | 33.9 | 10-124 | | | | |
| N-nitroso-di-n-propylamine | 19.5 | 5.00 | " | 25.0 | | 78.2 | 26-122 | | | | |
| N-nitroso-di-n-propylamine | 19.5 | 5.00 | " | 25.0 | | 78.2 | 26-122 | | | | |
| N-Nitrosodiphenylamine | 22.9 | 5.00 | " | 25.0 | | 91.8 | 23-149 | | | | |
| N-Nitrosodiphenylamine | 22.9 | 5.00 | " | 25.0 | | 91.8 | 23-149 | | | | |
| Pentachlorophenol | 16.7 | 5.00 | " | 25.0 | | 66.7 | 10-156 | | | | |
| Phenanthrene | 21.1 | 5.00 | " | 25.0 | | 84.4 | 24-127 | | | | |
| Phenol | 7.74 | 5.00 | " | 25.0 | | 31.0 | 10-110 | | | | |
| Phenol | 7.74 | 5.00 | " | 25.0 | | 31.0 | 10-110 | | | | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

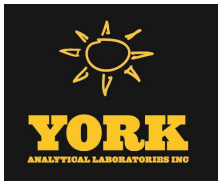
| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91416 - EPA 3510C** | | | | | | | | | | | |
| **LCS (BL91416-BS1)** | | | | | | | | Prepared: 12/26/2019 Analyzed: 12/27/2019 | | | |
| Pyrene | 19.6 | 5.00 | ug/L | 25.0 | | 78.2 | 31-132 | | | | |
| *Surrogate: SURR: 2-Fluorophenol* | *20.7* | | *"* | *50.0* | | *41.4* | *19.7-63.1* | | | | |
| *Surrogate: SURR: 2-Fluorophenol* | *20.7* | | *"* | *50.0* | | *41.4* | *19.7-63.1* | | | | |
| *Surrogate: SURR: Phenol-d5* | *12.1* | | *"* | *50.0* | | *24.2* | *10.1-41.7* | | | | |
| *Surrogate: SURR: Phenol-d5* | *12.1* | | *"* | *50.0* | | *24.2* | *10.1-41.7* | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *20.3* | | *"* | *25.0* | | *81.4* | *50.2-113* | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *20.3* | | *"* | *25.0* | | *81.4* | *50.2-113* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *20.8* | | *"* | *25.0* | | *83.0* | *39.9-105* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *20.8* | | *"* | *25.0* | | *83.0* | *39.9-105* | | | | |
| *Surrogate: SURR: 2,4,6-Tribromophenol* | *49.4* | | *"* | *50.0* | | *98.7* | *39.3-151* | | | | |
| *Surrogate: SURR: 2,4,6-Tribromophenol* | *49.4* | | *"* | *50.0* | | *98.7* | *39.3-151* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *21.2* | | *"* | *25.0* | | *84.8* | *30.7-106* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *21.2* | | *"* | *25.0* | | *84.8* | *30.7-106* | | | | |
| **LCS (BL91416-BS2)** | | | | | | | | Prepared: 12/26/2019 Analyzed: 12/27/2019 | | | |
| Acenaphthene | 0.640 | 0.0500 | ug/L | 1.00 | | 64.0 | 25-116 | | | | |
| Acenaphthylene | 0.640 | 0.0500 | " | 1.00 | | 64.0 | 26-116 | | | | |
| Anthracene | 0.640 | 0.0500 | " | 1.00 | | 64.0 | 25-123 | | | | |
| Benzo(a)anthracene | 0.680 | 0.0500 | " | 1.00 | | 68.0 | 33-125 | | | | |
| Benzo(a)pyrene | 0.630 | 0.0500 | " | 1.00 | | 63.0 | 32-132 | | | | |
| Benzo(b)fluoranthene | 0.720 | 0.0500 | " | 1.00 | | 72.0 | 22-137 | | | | |
| Benzo(g,h,i)perylene | 0.730 | 0.0500 | " | 1.00 | | 73.0 | 10-138 | | | | |
| Benzo(k)fluoranthene | 0.720 | 0.0500 | " | 1.00 | | 72.0 | 20-137 | | | | |
| Bis(2-ethylhexyl)phthalate | 1.22 | 0.500 | " | 1.00 | | 122 | 10-189 | | | | |
| Chrysene | 0.690 | 0.0500 | " | 1.00 | | 69.0 | 32-124 | | | | |
| Dibenzo(a,h)anthracene | 0.720 | 0.0500 | " | 1.00 | | 72.0 | 16-133 | | | | |
| Fluoranthene | 0.770 | 0.0500 | " | 1.00 | | 77.0 | 32-121 | | | | |
| Fluorene | 0.700 | 0.0500 | " | 1.00 | | 70.0 | 28-118 | | | | |
| Hexachlorobenzene | 0.700 | 0.0200 | " | 1.00 | | 70.0 | 23-124 | | | | |
| Hexachlorobutadiene | 0.720 | 0.500 | " | 1.00 | | 72.0 | 15-123 | | | | |
| Hexachloroethane | 0.610 | 0.500 | " | 1.00 | | 61.0 | 18-115 | | | | |
| Indeno(1,2,3-cd)pyrene | 0.710 | 0.0500 | " | 1.00 | | 71.0 | 15-135 | | | | |
| Naphthalene | 0.830 | 0.0500 | " | 1.00 | | 83.0 | 18-120 | | | | |
| Nitrobenzene | 0.700 | 0.250 | " | 1.00 | | 70.0 | 21-121 | | | | |
| N-Nitrosodimethylamine | ND | 0.500 | " | 1.00 | | | 10-124 | Low Bias | | | |
| Pentachlorophenol | 0.510 | 0.250 | " | 1.00 | | 51.0 | 10-156 | | | | |
| Phenanthrene | 0.700 | 0.0500 | " | 1.00 | | 70.0 | 24-127 | | | | |
| Pyrene | 0.730 | 0.0500 | " | 1.00 | | 73.0 | 31-132 | | | | |




## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91416 - EPA 3510C** | | | | | | | | | | | |
| **LCS Dup (BL91416-BSD1)** | | | | | | | | Prepared: 12/26/2019 Analyzed: 12/27/2019 | | | |
| 1,1-Biphenyl | 19.3 | 5.00 | ug/L | 25.0 | | 77.3 | 33-95 | | 2.76 | 20 | |
| 1,1-Biphenyl | 19.3 | 5.00 | " | 25.0 | | 77.3 | 33-95 | | 2.76 | 20 | |
| 1,2,4,5-Tetrachlorobenzene | 19.4 | 5.00 | " | 25.2 | | 76.9 | 26-120 | | 4.38 | 20 | |
| 1,2,4,5-Tetrachlorobenzene | 19.4 | 5.00 | " | 25.2 | | 76.9 | 26-120 | | 4.38 | 20 | |
| 1,2,4-Trichlorobenzene | 20.2 | 5.00 | " | 25.0 | | 80.8 | 20-118 | | 0.740 | 20 | |
| 1,2,4-Trichlorobenzene | 20.2 | 5.00 | " | 25.0 | | 80.8 | 20-118 | | 0.740 | 20 | |
| 1,2-Dichlorobenzene | 17.6 | 5.00 | " | 25.0 | | 70.6 | 29-111 | | 1.02 | 20 | |
| 1,2-Dichlorobenzene | 17.6 | 5.00 | " | 25.0 | | 70.6 | 29-111 | | 1.02 | 20 | |
| 1,2-Diphenylhydrazine (as Azobenzene) | 17.1 | 5.00 | " | 25.0 | | 68.5 | 16-141 | | 6.01 | 20 | |
| 1,2-Diphenylhydrazine (as Azobenzene) | 17.1 | 5.00 | " | 25.0 | | 68.5 | 16-141 | | 6.01 | 20 | |
| 1,3-Dichlorobenzene | 17.4 | 5.00 | " | 25.0 | | 69.4 | 23-117 | | 1.15 | 20 | |
| 1,3-Dichlorobenzene | 17.4 | 5.00 | " | 25.0 | | 69.4 | 23-117 | | 1.15 | 20 | |
| 1,4-Dichlorobenzene | 17.6 | 5.00 | " | 25.0 | | 70.4 | 30-105 | | 2.30 | 20 | |
| 1,4-Dichlorobenzene | 17.6 | 5.00 | " | 25.0 | | 70.4 | 30-105 | | 2.30 | 20 | |
| 2,3,4,6-Tetrachlorophenol | 18.9 | 5.00 | " | 25.0 | | 75.6 | 30-130 | | 10.2 | 20 | |
| 2,3,4,6-Tetrachlorophenol | 18.9 | 5.00 | " | 25.0 | | 75.6 | 30-130 | | 10.2 | 20 | |
| 2,4,5-Trichlorophenol | 16.8 | 5.00 | " | 25.0 | | 67.0 | 32-114 | | 4.32 | 20 | |
| 2,4,5-Trichlorophenol | 16.8 | 5.00 | " | 25.0 | | 67.0 | 32-114 | | 4.32 | 20 | |
| 2,4,6-Trichlorophenol | 20.7 | 5.00 | " | 25.0 | | 82.7 | 35-118 | | 1.01 | 20 | |
| 2,4,6-Trichlorophenol | 20.7 | 5.00 | " | 25.0 | | 82.7 | 35-118 | | 1.01 | 20 | |
| 2,4-Dichlorophenol | 20.4 | 5.00 | " | 25.0 | | 81.8 | 25-116 | | 2.85 | 20 | |
| 2,4-Dichlorophenol | 20.4 | 5.00 | " | 25.0 | | 81.8 | 25-116 | | 2.85 | 20 | |
| 2,4-Dimethylphenol | 16.7 | 5.00 | " | 25.0 | | 66.9 | 15-116 | | 1.87 | 20 | |
| 2,4-Dimethylphenol | 16.7 | 5.00 | " | 25.0 | | 66.9 | 15-116 | | 1.87 | 20 | |
| 2,4-Dinitrophenol | 22.2 | 5.00 | " | 25.0 | | 88.9 | 10-170 | | 5.09 | 20 | |
| 2,4-Dinitrophenol | 22.2 | 5.00 | " | 25.0 | | 88.9 | 10-170 | | 5.09 | 20 | |
| 2,4-Dinitrotoluene | 20.4 | 5.00 | " | 25.0 | | 81.7 | 41-128 | | 2.51 | 20 | |
| 2,4-Dinitrotoluene | 20.4 | 5.00 | " | 25.0 | | 81.7 | 41-128 | | 2.51 | 20 | |
| 2,6-Dinitrotoluene | 19.8 | 5.00 | " | 25.0 | | 79.2 | 45-116 | | 9.47 | 20 | |
| 2,6-Dinitrotoluene | 19.8 | 5.00 | " | 25.0 | | 79.2 | 45-116 | | 9.47 | 20 | |
| 2-Chloronaphthalene | 17.8 | 5.00 | " | 25.0 | | 71.2 | 33-112 | | 5.20 | 20 | |
| 2-Chloronaphthalene | 17.8 | 5.00 | " | 25.0 | | 71.2 | 33-112 | | 5.20 | 20 | |
| 2-Chlorophenol | 16.6 | 5.00 | " | 25.0 | | 66.2 | 15-120 | | 3.79 | 20 | |
| 2-Chlorophenol | 16.6 | 5.00 | " | 25.0 | | 66.2 | 15-120 | | 3.79 | 20 | |
| 2-Methylnaphthalene | 21.1 | 5.00 | " | 25.0 | | 84.2 | 24-118 | | 2.81 | 20 | |
| 2-Methylnaphthalene | 21.1 | 5.00 | " | 25.0 | | 84.2 | 24-118 | | 2.81 | 20 | |
| 2-Methylphenol | 12.7 | 5.00 | " | 25.0 | | 50.7 | 10-110 | | 1.43 | 20 | |
| 2-Methylphenol | 12.7 | 5.00 | " | 25.0 | | 50.7 | 10-110 | | 1.43 | 20 | |
| 2-Nitroaniline | 19.4 | 5.00 | " | 25.0 | | 77.4 | 34-129 | | 3.80 | 20 | |
| 2-Nitroaniline | 19.4 | 5.00 | " | 25.0 | | 77.4 | 34-129 | | 3.80 | 20 | |
| 2-Nitrophenol | 19.5 | 5.00 | " | 25.0 | | 78.0 | 28-118 | | 0.868 | 20 | |
| 2-Nitrophenol | 19.5 | 5.00 | " | 25.0 | | 78.0 | 28-118 | | 0.868 | 20 | |
| 3- & 4-Methylphenols | 10.2 | 5.00 | " | 25.0 | | 41.0 | 10-107 | | 2.31 | 20 | |
| 3- & 4-Methylphenols | 10.2 | 5.00 | " | 25.0 | | 41.0 | 10-107 | | 2.31 | 20 | |
| 3,3-Dichlorobenzidine | 17.5 | 5.00 | " | 25.0 | | 69.9 | 15-187 | | 4.36 | 20 | |
| 3,3-Dichlorobenzidine | 17.5 | 5.00 | " | 25.0 | | 69.9 | 15-187 | | 4.36 | 20 | |
| 3-Nitroaniline | 14.5 | 5.00 | " | 25.0 | | 58.0 | 24-134 | | 7.44 | 20 | |
| 3-Nitroaniline | 14.5 | 5.00 | " | 25.0 | | 58.0 | 24-134 | | 7.44 | 20 | |
| 4,6-Dinitro-2-methylphenol | 26.6 | 5.00 | " | 25.0 | | 106 | 10-153 | | 3.11 | 20 | |
| 4,6-Dinitro-2-methylphenol | 26.6 | 5.00 | " | 25.0 | | 106 | 10-153 | | 3.11 | 20 | |
| 4-Bromophenyl phenyl ether | 20.2 | 5.00 | " | 25.0 | | 80.8 | 34-120 | | 4.31 | 20 | |




## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91416 - EPA 3510C** | | | | | | | | | | | |
| **LCS Dup (BL91416-BSD1)** | | | | | | | | Prepared: 12/26/2019 Analyzed: 12/27/2019 | | | |
| 4-Bromophenyl phenyl ether | 20.2 | 5.00 | ug/L | 25.0 | | 80.8 | 34-120 | | 4.31 | 20 | |
| 4-Chloro-3-methylphenol | 18.5 | 5.00 | " | 25.0 | | 74.2 | 20-120 | | 5.61 | 20 | |
| 4-Chloro-3-methylphenol | 18.5 | 5.00 | " | 25.0 | | 74.2 | 20-120 | | 5.61 | 20 | |
| 4-Chloroaniline | 12.8 | 5.00 | " | 25.0 | | 51.3 | 10-147 | | 11.3 | 20 | |
| 4-Chloroaniline | 12.8 | 5.00 | " | 25.0 | | 51.3 | 10-147 | | 11.3 | 20 | |
| 4-Chlorophenyl phenyl ether | 19.9 | 5.00 | " | 25.0 | | 79.7 | 27-121 | | 1.94 | 20 | |
| 4-Chlorophenyl phenyl ether | 19.9 | 5.00 | " | 25.0 | | 79.7 | 27-121 | | 1.94 | 20 | |
| 4-Nitroaniline | 17.7 | 5.00 | " | 25.0 | | 70.8 | 13-134 | | 1.85 | 20 | |
| 4-Nitroaniline | 17.7 | 5.00 | " | 25.0 | | 70.8 | 13-134 | | 1.85 | 20 | |
| 4-Nitrophenol | 8.66 | 5.00 | " | 25.0 | | 34.6 | 10-131 | | 3.96 | 20 | |
| 4-Nitrophenol | 8.66 | 5.00 | " | 25.0 | | 34.6 | 10-131 | | 3.96 | 20 | |
| Acenaphthene | 18.8 | 5.00 | " | 25.0 | | 75.1 | 25-116 | | 3.92 | 20 | |
| Acenaphthylene | 17.7 | 5.00 | " | 25.0 | | 70.8 | 26-116 | | 4.58 | 20 | |
| Acetophenone | 18.7 | 5.00 | " | 25.0 | | 74.9 | 25-110 | | 4.39 | 20 | |
| Acetophenone | 18.7 | 5.00 | " | 25.0 | | 74.9 | 25-110 | | 4.39 | 20 | |
| Aniline | 6.14 | 5.00 | " | 25.0 | | 24.6 | 10-117 | | 36.2 | 20 | Non-dir. |
| Aniline | 6.14 | 5.00 | " | 25.0 | | 24.6 | 10-117 | | 36.2 | 20 | Non-dir. |
| Anthracene | 19.9 | 5.00 | " | 25.0 | | 79.8 | 25-123 | | 5.61 | 20 | |
| Atrazine | 19.0 | 5.00 | " | 25.0 | | 75.9 | 37-109 | | 2.50 | 20 | |
| Benzaldehyde | 21.8 | 5.00 | " | 25.0 | | 87.2 | 29-117 | | 3.73 | 20 | |
| Benzaldehyde | 21.8 | 5.00 | " | 25.0 | | 87.2 | 29-117 | | 3.73 | 20 | |
| Benzo(a)anthracene | 19.4 | 5.00 | " | 25.0 | | 77.6 | 33-125 | | 7.88 | 20 | |
| Benzo(a)pyrene | 22.1 | 5.00 | " | 25.0 | | 88.5 | 32-132 | | 7.10 | 20 | |
| Benzo(b)fluoranthene | 23.4 | 5.00 | " | 25.0 | | 93.7 | 22-137 | | 5.20 | 20 | |
| Benzo(g,h,i)perylene | 22.5 | 5.00 | " | 25.0 | | 90.2 | 10-138 | | 2.02 | 20 | |
| Benzo(k)fluoranthene | 19.9 | 5.00 | " | 25.0 | | 79.5 | 20-137 | | 7.32 | 20 | |
| Benzoic acid | ND | 50.0 | " | 25.0 | | | 30-130 | Low Bias | | 20 | |
| Benzoic acid | 4.88 | 5.00 | " | 25.0 | | 19.5 | 30-130 | Low Bias | 8.10 | 20 | |
| Benzyl alcohol | 14.1 | 5.00 | " | 25.0 | | 56.4 | 10-117 | | 5.62 | 20 | |
| Benzyl alcohol | 14.1 | 5.00 | " | 25.0 | | 56.4 | 10-117 | | 5.62 | 20 | |
| Benzyl butyl phthalate | 15.9 | 5.00 | " | 25.0 | | 63.7 | 29-133 | | 9.22 | 20 | |
| Benzyl butyl phthalate | 15.9 | 5.00 | " | 25.0 | | 63.7 | 29-133 | | 9.22 | 20 | |
| Bis(2-chloroethoxy)methane | 18.6 | 5.00 | " | 25.0 | | 74.6 | 10-154 | | 5.27 | 20 | |
| Bis(2-chloroethoxy)methane | 18.6 | 5.00 | " | 25.0 | | 74.6 | 10-154 | | 5.27 | 20 | |
| Bis(2-chloroethyl)ether | 19.1 | 5.00 | " | 25.0 | | 76.5 | 17-125 | | 0.781 | 20 | |
| Bis(2-chloroethyl)ether | 19.1 | 5.00 | " | 25.0 | | 76.5 | 17-125 | | 0.781 | 20 | |
| Bis(2-chloroisopropyl)ether | 22.0 | 5.00 | " | 25.0 | | 87.9 | 10-139 | | 4.23 | 20 | |
| Bis(2-chloroisopropyl)ether | 22.0 | 5.00 | " | 25.0 | | 87.9 | 10-139 | | 4.23 | 20 | |
| Bis(2-ethylhexyl)phthalate | 18.4 | 5.00 | " | 25.0 | | 73.8 | 10-189 | | 22.6 | 20 | Non-dir. |
| Caprolactam | 2.99 | 5.00 | " | 25.0 | | 12.0 | 10-137 | | 11.7 | 20 | |
| Caprolactam | 2.99 | 5.00 | " | 25.0 | | 12.0 | 10-137 | | 11.7 | 20 | |
| Carbazole | 18.8 | 5.00 | " | 25.0 | | 75.1 | 42-126 | | 5.74 | 20 | |
| Carbazole | 18.8 | 5.00 | " | 25.0 | | 75.1 | 42-126 | | 5.74 | 20 | |
| Chrysene | 19.7 | 5.00 | " | 25.0 | | 78.7 | 32-124 | | 7.25 | 20 | |
| Dibenzo(a,h)anthracene | 27.5 | 5.00 | " | 25.0 | | 110 | 16-133 | | 3.40 | 20 | |
| Dibenzofuran | 19.4 | 5.00 | " | 25.0 | | 77.4 | 36-113 | | 4.05 | 20 | |
| Dibenzofuran | 19.4 | 5.00 | " | 25.0 | | 77.4 | 36-113 | | 4.05 | 20 | |
| Diethyl phthalate | 18.7 | 5.00 | " | 25.0 | | 74.6 | 38-115 | | 2.85 | 20 | |
| Diethyl phthalate | 18.7 | 5.00 | " | 25.0 | | 74.6 | 38-115 | | 2.85 | 20 | |
| Dimethyl phthalate | 18.3 | 5.00 | " | 25.0 | | 73.4 | 38-129 | | 6.28 | 20 | |
| Dimethyl phthalate | 18.3 | 5.00 | " | 25.0 | | 73.4 | 38-129 | | 6.28 | 20 | |

## Semivolatile Organic Compounds by GC/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91416 - EPA 3510C** | | | | | | | | | | | |
| **LCS Dup (BL91416-BSD1)** | | | | | | | | | Prepared: 12/26/2019 Analyzed: 12/27/2019 | | |
| Di-n-butyl phthalate | 17.8 | 5.00 | ug/L | 25.0 | | 71.3 | 31-120 | | 3.42 | 20 | |
| Di-n-butyl phthalate | 17.8 | 5.00 | " | 25.0 | | 71.3 | 31-120 | | 3.42 | 20 | |
| Di-n-octyl phthalate | 20.0 | 5.00 | " | 25.0 | | 79.8 | 21-149 | | 12.0 | 20 | |
| Di-n-octyl phthalate | 20.0 | 5.00 | " | 25.0 | | 79.8 | 21-149 | | 12.0 | 20 | |
| Fluoranthene | 20.7 | 5.00 | " | 25.0 | | 82.9 | 32-121 | | 5.12 | 20 | |
| Fluorene | 19.4 | 5.00 | " | 25.0 | | 77.8 | 28-118 | | 4.38 | 20 | |
| Hexachlorobenzene | 16.8 | 5.00 | " | 25.0 | | 67.2 | 23-124 | | 7.34 | 20 | |
| Hexachlorobutadiene | 20.3 | 5.00 | " | 25.0 | | 81.2 | 15-123 | | 3.05 | 20 | |
| Hexachlorocyclopentadiene | 14.3 | 10.0 | " | 25.0 | | 57.0 | 10-130 | | 8.08 | 20 | |
| Hexachlorocyclopentadiene | 14.3 | 10.0 | " | 25.0 | | 57.0 | 10-130 | | 8.08 | 20 | |
| Hexachloroethane | 16.4 | 2.50 | " | 25.0 | | 65.8 | 18-115 | | 2.34 | 20 | |
| Indeno(1,2,3-cd)pyrene | 24.1 | 5.00 | " | 25.0 | | 96.3 | 15-135 | | 2.06 | 20 | |
| Isophorone | 19.8 | 5.00 | " | 25.0 | | 79.2 | 25-127 | | 5.12 | 20 | |
| Isophorone | 19.8 | 5.00 | " | 25.0 | | 79.2 | 25-127 | | 5.12 | 20 | |
| Naphthalene | 19.6 | 5.00 | " | 25.0 | | 78.6 | 18-120 | | 2.46 | 20 | |
| Nitrobenzene | 18.2 | 5.00 | " | 25.0 | | 72.7 | 21-121 | | 6.24 | 20 | |
| N-Nitrosodimethylamine | 8.10 | 5.00 | " | 25.0 | | 32.4 | 10-124 | | 4.47 | 20 | |
| N-nitroso-di-n-propylamine | 19.0 | 5.00 | " | 25.0 | | 76.1 | 26-122 | | 2.70 | 20 | |
| N-nitroso-di-n-propylamine | 19.0 | 5.00 | " | 25.0 | | 76.1 | 26-122 | | 2.70 | 20 | |
| N-Nitrosodiphenylamine | 22.1 | 5.00 | " | 25.0 | | 88.5 | 23-149 | | 3.59 | 20 | |
| N-Nitrosodiphenylamine | 22.1 | 5.00 | " | 25.0 | | 88.5 | 23-149 | | 3.59 | 20 | |
| Pentachlorophenol | 15.8 | 5.00 | " | 25.0 | | 63.2 | 10-156 | | 5.36 | 20 | |
| Phenanthrene | 20.2 | 5.00 | " | 25.0 | | 80.9 | 24-127 | | 4.31 | 20 | |
| Phenol | 6.75 | 5.00 | " | 25.0 | | 27.0 | 10-110 | | 13.7 | 20 | |
| Phenol | 6.75 | 5.00 | " | 25.0 | | 27.0 | 10-110 | | 13.7 | 20 | |
| Pyrene | 18.3 | 5.00 | " | 25.0 | | 73.0 | 31-132 | | 6.82 | 20 | |
| *Surrogate: SURR: 2-Fluorophenol* | *20.1* | | " | *50.0* | | *40.2* | *19.7-63.1* | | | | |
| *Surrogate: SURR: 2-Fluorophenol* | *20.1* | | " | *50.0* | | *40.2* | *19.7-63.1* | | | | |
| *Surrogate: SURR: Phenol-d5* | *11.8* | | " | *50.0* | | *23.6* | *10.1-41.7* | | | | |
| *Surrogate: SURR: Phenol-d5* | *11.8* | | " | *50.0* | | *23.6* | *10.1-41.7* | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *20.3* | | " | *25.0* | | *81.1* | *50.2-113* | | | | |
| *Surrogate: SURR: Nitrobenzene-d5* | *20.3* | | " | *25.0* | | *81.1* | *50.2-113* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *20.5* | | " | *25.0* | | *81.9* | *39.9-105* | | | | |
| *Surrogate: SURR: 2-Fluorobiphenyl* | *20.5* | | " | *25.0* | | *81.9* | *39.9-105* | | | | |
| *Surrogate: SURR: 2,4,6-Tribromophenol* | *48.2* | | " | *50.0* | | *96.4* | *39.3-151* | | | | |
| *Surrogate: SURR: 2,4,6-Tribromophenol* | *48.2* | | " | *50.0* | | *96.4* | *39.3-151* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *20.7* | | " | *25.0* | | *82.7* | *30.7-106* | | | | |
| *Surrogate: SURR: Terphenyl-d14* | *20.7* | | " | *25.0* | | *82.7* | *30.7-106* | | | | |

## Gas Chromatography/Flame Ionization Detector - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91446 - EPA 3510C** | | | | | | | | | | | |
| **Blank (BL91446-BLK1)** | | | | | | | | Prepared & Analyzed: 12/27/2019 | | | |
| Total Petroleum Hydrocarbons-DRO | ND | 0.100 | mg/L | | | | | | | | |
| *Surrogate: Triacontane* | *0.0873* | | *"* | *0.100* | | *87.3* | *40-150* | | | | |
| **LCS (BL91446-BS1)** | | | | | | | | Prepared & Analyzed: 12/27/2019 | | | |
| Total Petroleum Hydrocarbons-DRO | 1.34 | 0.100 | mg/L | 1.72 | | 78.0 | 40-120 | | | | |
| *Surrogate: Triacontane* | *0.0752* | | *"* | *0.100* | | *75.2* | *40-150* | | | | |
| **LCS Dup (BL91446-BSD1)** | | | | | | | | Prepared & Analyzed: 12/27/2019 | | | |
| Total Petroleum Hydrocarbons-DRO | 1.52 | 0.100 | mg/L | 1.72 | | 88.1 | 40-120 | | 12.1 | 30 | |
| *Surrogate: Triacontane* | *0.0882* | | *"* | *0.100* | | *88.2* | *40-150* | | | | |
| **Batch BL91603 - EPA 5030B** | | | | | | | | | | | |
| **Blank (BL91603-BLK1)** | | | | | | | | Prepared & Analyzed: 12/30/2019 | | | |
| Total Petroleum Hydrocarbons-GRO | ND | 0.800 | mg/L | | | | | | | | |
| *Surrogate: SURR: p-Bromofluorobenzene* | *194* | | *ug/L* | *200* | | *96.8* | *70-130* | | | | |
| **Reference (BL91603-SRM1)** | | | | | | | | Prepared & Analyzed: 12/30/2019 | | | |
| Total Petroleum Hydrocarbons-GRO | 2.01 | 0.800 | mg/L | 2.30 | | 87.4 | 37.1-176 | | | | |
| *Surrogate: SURR: p-Bromofluorobenzene* | *211* | | *ug/L* | *200* | | *105* | *70-130* | | | | |

## Metals by ICP/MS - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91539 - EPA 200.8** | | | | | | | | | | | |
| **Blank (BL91539-BLK1)** | | | | | | | | | Prepared: 12/30/2019 Analyzed: 01/02/2020 | | |
| Iron | ND | 10.0 | ug/L | | | | | | | | |
| **LCS (BL91539-BS1)** | | | | | | | | | Prepared: 12/30/2019 Analyzed: 01/02/2020 | | |
| Iron | 2650 | | ug/L | 2500 | | 106 | 90-110 | | | | |

## Anions by Ion Chromatography - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91433 - EPA 300** | | | | | | | | | | | |
| **Blank (BL91433-BLK1)** | | | | | | | | Prepared & Analyzed: 12/24/2019 | | | |
| Sulfate | ND | 1.00 | mg/L | | | | | | | | |
| **LCS (BL91433-BS1)** | | | | | | | | Prepared & Analyzed: 12/24/2019 | | | |
| Sulfate | 10.0 | 1.00 | mg/L | 10.0 | | 100 | 85-115 | | | | |
| **Duplicate (BL91433-DUP1)** | *Source sample: 19L0859-01 (MW-26S) | | | | | | | Prepared & Analyzed: 12/24/2019 | | | |
| Sulfate | 365 | 20.0 | mg/L | | 359 | | | | 1.53 | 15 | |
| **Matrix Spike (BL91433-MS1)** | *Source sample: 19L0859-01 (MW-26S) | | | | | | | Prepared & Analyzed: 12/24/2019 | | | |
| Sulfate | 356 | 20.0 | mg/L | 10.0 | 359 | NR | 85-115 | Low Bias | | | |
| **Matrix Spike (BL91433-MS2)** | *Source sample: 19L0859-02 (MW-27S) | | | | | | | Prepared & Analyzed: 12/24/2019 | | | |
| Sulfate | 180 | 20.0 | mg/L | 10.0 | 183 | NR | 85-115 | Low Bias | | | |

## Wet Chemistry Parameters - Quality Control Data

## York Analytical Laboratories, Inc.

| Analyte | Result | Reporting Limit | Units | Spike Level | Source* Result | %REC | %REC Limits | Flag | RPD | RPD Limit | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Batch BL91463 - Analysis Preparation** | | | | | | | | | | | |
| **Duplicate (BL91463-DUP1)** | *Source sample: 19L0859-02 (MW-27S) | | | | | | | Prepared & Analyzed: 12/27/2019 | | | |
| Alkalinity, total | 480 | 2.0 | mg/L | | 490 | | | | 2.06 | 15 | |
| **Reference (BL91463-SRM1)** | | | | | | | | Prepared & Analyzed: 12/27/2019 | | | |
| Alkalinity, total | 160 | | mg/L | 163 | | 101 | 90.2-109.8 | | | | |

## Volatile Analysis Sample Containers

| Lab ID | Client Sample ID | Volatile Sample Container |
|---|---|---|
| 19L0859-01 | MW-26S | 40mL Clear Vial (pre-pres.) HCl; Cool to 4° C |
| 19L0859-01 | MW-26S | 40mL Clear Vial (pre-pres.) HCl; Cool to 4° C |
| 19L0859-02 | MW-27S | 40mL Clear Vial (pre-pres.) HCl; Cool to 4° C |
| 19L0859-02 | MW-27S | 40mL Clear Vial (pre-pres.) HCl; Cool to 4° C |
| 19L0859-03 | Field Blank | 40mL Clear Vial (pre-pres.) HCl; Cool to 4° C |
| 19L0859-04 | Trip Blank | 40mL Clear Vial (pre-pres.) HCl; Cool to 4° C |

## Sample and Data Qualifiers Relating to This Work Order

| | |
|---|---|
| Rep-04 | The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits. |
| QR-04 | The RPD exceeded control limits for the LCS/LCSD QC. |
| QR-02 | The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data. |
| QM-07 | The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery. |
| QL-02 | This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature. |
| J | Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration. |
| HT-01 | This result was reported from an analysis conducted outside of the EPA recommended holding time. |
| EXT-EM | The sample exhibited emulsion formation during the extraction process. This may affect surrogate recoveries. |
| CCV-L | The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased low. |
| CCV-H | The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high. |
| CCV-E | The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit). |

## Definitions and Other Explanations

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

Non-Dir. Non-dir. flag (Non-Directional Bias ) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

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

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

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

Certification for pH is no longer offered by NYDOH ELAP.

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

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

---

Corrective Action: Only two 1 liter amber containers were received for sample MW-26S, not three as listed on the COC

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

# Field Chain-of-Custody Record

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

YORK Project No. 19L0859



| YOUR Information | Report To: | Invoice To: |
|---|---|---|
| Company: KBRODERICK & ASSOCIATES, INC | Company: JCB | Company: JCB |
| Address: 1775 EXPRESSWAY DR. N HAUPPAUGE, NY 11788 | Address: | Address: |
| Phone.: 631-584-5492 | Phone.: | Phone.: |
| Contact: S. MULLER | Contact: | Contact: |
| E-mail: SMULLER@JCBRODERICK.COM | E-mail: | E-mail: |

YOUR Project Number: 19-44493

YOUR Project Name: QUEENS LIBRARY

YOUR PO#:

**Turn-Around Time**

- RUSH - Next Day
- RUSH - Two Day
- RUSH - Three Day
- RUSH - Four Day
- Standard (5-7 Day) ✓

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

Samples Collected by: (print your name above and sign below)
STEVEN MULLER

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

**Samples From**
New York ✓
New Jersey
Connecticut
Pennsylvania
Other

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

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

| Sample Identification | Sample Matrix | Date/Time Sampled | Analysis Requested | Container Description |
|---|---|---|---|---|
| MW-26S | GW | 12/20/19 | TCL VOC, TCL SVOC, TPHC DRO, | 4-HCL VOAs |
| | | | TPHC GRO, TOTAL IRON, ALKALINITY | 3-1 QT, 2-250 |
| | | | SULFATE | 1-HNO3 250 |
| MW-27S | GW | 12/20/19 | 〃 〃 〃 〃 | 〃 〃 |
| | | | | |
| FIELD BLANK | | | TCL VOC | 2-HCL VOAs |
| TRIP BLANK | | | TCL VOC | 2-HCL VOAs |

**Comments:**

**Preservation:** (check all that apply)
HCl X MeOH ___ HNO3 X H2SO4 ___ NaOH ✓ ZnAc ___
Ascorbic Acid ___ Other: ICE

**Special Instruction**
Field Filtered ___
Lab to Filter ___

| Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time | Samples Relinquished by / Company | Date/Time |
|---|---|---|---|---|---|
| JCB | 12/20/19 10:30 | York | 12-23-19 10:30 | York | 12-23-19 10:30 |
| Samples Received by / Company | Date/Time | Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time |
| Tom A / York | 12/23/19 1630 | Tom A / York | 12/23/19 1828 | VINNY / YORK | 12-23-19 18:28 |
| Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time | Samples Received in LAB by | Date/Time |
| VINNY / YORK | 12-23-19 2024 M-F ~~18:28~~ | | | TC Fabian | 12/23/19 2024 |

Temp. Received at Lab: 4.8 Degrees C

# Appendix 4
# Data Usability Summary Report

# DATA USABILITY SUMMARY REPORT (DUSR)

## QUEENS LIBRARY SITE

## ORGANIC AND INORGANIC ANALYSES IN GROUNDWATER SAMPLES

## YORK ANALYTICAL LABORATORIES STRATFORD, CT

## SDG NUMBER: 19L0859

March 2020

Prepared for
J.C. Broderick and Associates, Inc
Happauge, New York

Prepared by
Premier Environmental Services
2815 Covered Bridge Road
Merrick, New York 11566
(516)223-9761

# Data Usability Summary Report

| | |
|---|---|
| **DATA VALIDATION FOR:** | **Volatile Organic Analyses (EPA Methods: 8260C)** |
| **SITE:** | **Queens Library** |
| **CONTRACT LAB:** | **York Analytical Laboratories, Inc. Stratford, CT** |
| **PROJECT NO.:** | **19L0859** |
| **REVIEWER:** | **Renee Cohen** |
| **DATE REVIEW COMPLETED:** | **February 2020** |
| **MATRIX:** | **Groundwater** |

**The data validation was performed according to the guidelines in the USEPA National Functional Guidelines for Organic Data Review. In addition, method and QC criteria specified in the NYSDEC ASP documents were cited. All data are considered valid and acceptable except those analytes which have been deemed unusable "R" (unreliable). Due to various QC problems, some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.**

**Table 1 of this report includes a cross reference between the field sample ID and laboratory sample ID used to perform data validation. Definitions of the data qualifiers that may be used in this report are in Appendix A of this report. Qualified data result pages are located in Appendix B of this report. A copy of the Chain of Custody (COC) document is in Appendix C of this report.**

**This sample set included two (2) groundwater/aqueous samples, one (1) Trip Blank sample and one (1) Field Blank sample. Based on the COC documents that accompanied the samples to the laboratory the samples were collected December 20, 2019 and received at York Analytical Laboratories located in Stratford, CT on December 23, 2019 in good condition. The samples in this data set were analyzed for the parameter listed on the COC document that accompanied the sample samples to the laboratory. This report is the review of these Volatile Organic Compound (VOCs) analyses.**

## ORGANIC DATA ASSESSMENT

### 1. OVERVIEW:

Samples associated with this data set were analyzed for Volatile Organic Analytes (VOA) as marked on the COC documentation that accompanied the sample set to the laboratory. All analyses were performed in accordance with USEPA Test Methods for the Evaluation of Solid Waste (SW846) as well as the NYSDEC ASP methodologies. Data validation will utilize the validation guidelines in listed above, however, QA/QC requirements of the NYS DEC ASP will supersede CLP requirements in terms of calibration (where applicable) and holding time. York Analytical Laboratories generated a stand-alone report for each fraction in compliance with the NYS DEC ASP Category B deliverables. A summary of the applicable QC will be discussed at each section of the report.

Laboratory report 19L0859 consists of two (2) monitoring well samples, one (1) Trip Blank sample and one (1) Field Blank sample that were analyzed by the method listed on the Chain of Custody documents that accompanied the samples to the laboratory. The Chain of Custody document listed the field sample ID's that are summarized in Table 1 of this report.

A copy of the COC documents associated with this data set is located in Appendix C of this report.

### 2. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. The NYS DEC ASP criteria specifies holding times for solid and soil samples. These holding times are based on Validated Time of Sample Receipt (VTSR). The holding times cited in the NY ASP were reviewed. EPA SW846 methods cite holding times based on collection date. The technical holding time for properly preserved aqueous and non-aqueous Volatile Organic samples is fourteen (14) days.

Samples reported in laboratory report 19L0859 were collected December 20, 2019 per the COC documents that accompanied the samples to the laboratory. The samples were received at the laboratory on December 23, 2019. Initial sample analyses, applicable reanalysis and QC sample analyses associated with this data set were analyzed in two (2) sample batches. Sample analyses were completed on December 31, 2019. The samples reported in this data set were analyzed within the method holding time.

### 3. SURROGATES:

**Samples to be analyzed for Volatile Organic Analytes (VOA) are fortified with three (3) method recommended surrogate compounds. These include 1,2-Dichloroethane-d4 (69-130%), Toluene-d8 (81-117%) and 4-Bromofluorobenzene (79-122%). The surrogate compounds were added prior to sample analysis to evaluate the overall laboratory performance and the efficiency of the analytical technique.**

The laboratory reported in-house recovery limits in terms of percent recovery (%) for each surrogate compound. The percent recovery of each surrogate compound met QC criteria in each of the field samples and QC samples reported in this data set.

## ORGANIC DATA ASSESSMENT

### 4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

**The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.**

Site specific MS/MSD analysis was not listed on the COC documents that accompanied the samples to the laboratory. Site specific MS/MSD was not reported in this data set. Batch QC MS/MSD was not reported in this data set. The laboratory reported LCS/LCSD data in each of the sample batches reported in this data set.

The laboratory prepared and analyzed a one (1) Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) with each sample batch. Three (3) aqueous LCS/LCSD sample sets are reported with this data report. The laboratory fortified each LCS and LCSD sample with a full component spike solution. York Analytical Laboratories used a "CLP Like" QC summary form to report the data results. In-house percent recovery limits (%) were applied to each target analyte. LCS/LCSD RPD (%) criteria (0-30) was applied.

The percent recovery (%) of each target analyte and the RPD (%) in the LCS/LCSD was reviewed in the LCS/LCSD sample sets associated with this laboratory report. The percent recovery (%) and RPD (%) of the reported target analytes met QC criteria in both the LCS and LCSD sample analyses reported in this data set with the exception of the following:

| Batch | Analyte | % Recovery | RPD (%) |
|---|---|---|---|
| BL91325_BS1 | 1,4-Dioxane | Low/OK | High |
| | Dichlorodifluoromethane | High/High | OK |
| BL91325_BS2 | Dichlorodifluoromethane | High/High | OK |
| | Tetrachloroethene | Low/OK | OK |
| BL91544 | Tetrachloroethene | Low/Low | OK |
| | 1,4-Dioxane | Low/OK | High |
| | TBA | OK/OK | High |

Samples reported from these sample batches have been estimated "J"/"UJ" qualified based on the LCS/LCSD results associated with the sample batch.

Qualified data result pages are located in Appendix B of this report.

## ORGANIC DATA ASSESSMENT

### 5. BLANK CONTAMINATION:

**Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. Samples were only qualified with those QC samples associated with the particular blank.**

**A) Method Blank contamination**

Two (2) method blank samples are associated with this data set. Each of the method blank samples were free from contamination of target compounds.

**B) Field or Equipment Rinse Blank (ERB) contamination**

One (1) Field Blank sample is associated with this data set. The Field Blank sample was free from contamination of target analytes with the exception of Methylene Chloride (5.0 ug/L). Methylene was not detected in the samples associated with this data set.

**C) Trip Blank contamination**

One (1) Trip Blank sample is associated with this data set. The Trip Blank sample was free from contamination of target and non-target compounds with the exception of Acetone (3.7 ug/L) and m,p-Xylene (0.53 J ug/L). When these target analytes have been detected in the field samples reported in this data set, these target analyte concentrations were reviewed. m,p-Xylene in sample MW-26S was higher than that attributed to the Trip Blank sample, no action was taken.

## ORGANIC DATA ASSESSMENT

### 6. GC/MS CALIBRATION:

**Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance. Region USEPA and Region II criteria is the sample for the analytes in both GC/MS Volatile and GC/MS Semivolatile Organic analyses is the same, therefore, all text discussion is for VOA and SVOA samples analyses where applicable.**

### A) RESPONSE FACTOR

**The response factor measures the instrument's response to specific chemical compounds. Region II data review requires that the response factor of all analytes be greater than or equal to 0.05 in both initial and continuing calibration analyses. A value less than 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Region II data validation criteria states that if the minimum RRF criteria are not met in an initial calibration the positive results are qualified "J". Non-detect results in the initial calibration with an RRF <0.05 are qualified "R", unusable. If RRF criteria is not met in the continuing calibration curve analysis, affected positive analytes will be qualified "J" estimated. Those analytes not detected are not qualified. The SW-846 Methods cite specific analytes known as System Performance Check Compounds (SPCC). Minimum response criteria are set for these analytes. If the minimum criteria are not met, analyses must stop, and the source of problems must be found and corrected. Data associated with this set has been reviewed for the criteria in the cited in the EPA Method and the Region II criteria.**

Two (2) multi-level initial calibration curve analyses are associated with this data set. Initial calibration curve analysis was performed on Instrument MSVOA7 (10/21/19) and MSVOA8 (12/30/19).

The laboratory summarized the RRF data on a CLP like Form 6A. The laboratory included all raw data and instrument summary forms in the laboratory report for review. The average RRF of target compounds met QC criteria in each of the initial calibration curve analyses associated with this data set with the exception of the following:

**Initial Curve - GCMSVOA7 – 10/21/19**
1,4-Dioxane – <0.005
1,4-Dioxane has been deemed "unreliable" "R" qualified in the samples reported from GCMSVOA7.

**Initial Curve - GCMSVOA8 – 12/30/19**
1,4-Dioxane – <0.005
1,4-Dioxane has been deemed "unreliable" "R" qualified in the samples reported from GCMSVOA8.

**CCV-V8-V816031.D (12/31/19)** - The average RRF of target compounds met QC criteria in the continuing calibration standard analysis with the exception of tert Butyl alcohol (TBA) RRF of 0.036. TBA has been deemed unreliable "R" qualified in the samples associated with this CCV analysis.

**6. GC/MS CALIBRATION (cont'd):**

**B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D):**

**Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the compounds in the continuing calibration standard to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Region II data validation criteria states that the percent RSD of the initial calibration curve must be less than or equal to 20% for all compounds with the exception of the continuing calibration check compounds (CCC's) where the %RSD must be less than 20%. The %D must be <20% in the continuing calibration standard. These criteria have been applied to all target analytes. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects may be flagged "UJ", based on professional judgment. If %RSD and %D grossly exceed QC criteria (>90%), non-detects data may be qualified "R", unusable. Data associated with this set has been reviewed for the criteria in the cited in the USEPA Data Validation Guidelines.**

Volatile Organic Analyses – Two (2) initial calibration curve analyses are associated with the samples reported in this data set. The laboratory performed the aqueous initial calibration analyses on instrument QVOA7 (10/21/19) and QVOA8 (12/30/19).

One (1) second source calibration standard was analyzed following each of the initial calibration curve analyses. The % RSD (0-30%) of the reported target analytes in this standard met QC criteria with the exception of that listed below:

GCMS MSVOA7 – 1,4-Dioxane (34.3%)
GCMS MSVOA8 – Dichlorodifluoromethane (31.8%), Tetrachloroethene (38.1%)

% Difference criteria (%D) criteria was reviewed in each of the continuing calibration standard analyses (CCV) standards associated with is data set. The % Difference was met for each of the reported target analytes with the exception of that listed below.

| Date/Instrument | Analyte | %RSD/%Difference |
|---|---|---|
| QVOA7 – 10/21/19 | 1,4-Dioxane | 34.3 |
| | m,p-Xylene | 22.4 |
| CCV (File ID: V737627.D) | 1,2,3-Trichlorobenzene | 32.4 |
| | 1,2,4-Trichlorobenzene | 29.2 |
| | 1,2-Dichloropropane | 20.9 |
| | 1,4-Dioxane | 27.5 |
| | Acrolein | 48.1 |
| | Bromomethane | 86.7 |
| | Carbon Disulfide | 22.0 |
| | Chloromethane | 38.8 |
| | Methyl Acetate | 22.0 |
| | Methylcyclohexane | 20.4 |

**6. GC/MS CALIBRATION (cont'd):**

**B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D) (cont'd):**

| Date/Instrument | Analyte | %RSD/%Difference |
|---|---|---|
| QVOA8 – 12/30/19 | Dichlorodifluoromethane | 31.8 |
| | Tetrachloroethene | 38.1 |
| CCV (File ID: V816031.D) | 2-Hexanone | 22.9 |
| | Acetone | 35.0 |
| | Acrolein | 41.1 |
| | Bromomethane | 49.0 |
| | tert-Butyl Alcohol (TBA) | 45.7 |

Target analytes associated with these standard analyses have been estimated "J"/"UJ" qualified in the samples reported from these initial calibration curve analyses and these initial calibration verification standard analyses that are associated with his data set.

Qualified data result pages are located in Appendix B of this report.

**7. GC/MS MASS SPECTROMETER TUNING:**

**Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is Bromofluorobenzene (BFB). If the mass calibration is in error, or missing, all associated data will be classified as unusable, "R".**

The BFB tune criteria listed in the data report met or exceeded that required by the method. The instrument tuning criteria associated with these sample analyses were met.

In addition to BFB Tune criteria, samples are to be analyzed within 12 hours of the BFB injection. The samples reported in this data set were analyzed within 12 hours of the BFB injection.

## ORGANIC DATA ASSESSMENT

### 8. GC/MS INTERNAL STANDARDS PERFORMANCE:

**Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every run. The method recommends that the internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The method recommends that the retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. The EPA CLP validation guidelines state that if the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified estimated, "J", and all non-detects below 50% are qualified "UJ", non-detects above 100% should not be qualified or "R" if there is a severe loss of sensitivity. The internal standard area count evaluation criteria are applied to all field and QC samples.**

The samples in this data set were fortified with the internal standards Chlorobenzene-d5, Fluorobenzene and 1,2-Dichlorobenzene-d4 prior to analysis. The area counts, and retention time of each internal standard met QC criteria in each of the field samples and QC samples associated with this data set.

### 9. COMPOUND IDENTIFICATION:

**Target compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary ion intensities with 20% of that in the standard compound.**

Laboratory Report 19L0859 included the analysis of two (2) aqueous samples, one (1) Trip Blank sample and one (1) Field Blank sample. The samples reported in this data set were collected on December 20, 2019 and were received at York Analytical Laboratories Inc. on December 23, 2019. The samples were analyzed in accordance with EPA Method 8260C. The laboratories standard VOA/Method 8260C compound list was reported. Sample results between the laboratory Limit of Detection (LOD) and Limit of Quantitation (LOQ) are reported "J" qualified by the laboratory. When sample dilution was used to analyze and report target analytes, detected analytes have been qualified "D" by the laboratory.

When target analytes were reported from an initial dilution analysis and/or secondary dilution analysis (greater than 1:1), the laboratory qualified the detected analyte results "D" on the laboratory report result page. Raw data for both analyses (where applicable) has been included in the laboratory report and reviewed during this data review. One (1) analyte result is reported for each target compound.

Sample MW-26S was analyzed and reported from a 1:200 dilution to report the concentration of target analytes within the calibration range of the GCMS.

Sample MW-27S was analyzed and reported from a 1:5 dilution to report the concentration of target analytes within the calibration range of the GCMS.

Qualified data result pages are located in Appendix B of this report.

## ORGANIC DATA ASSESSMENT

### 10. FIELD DUPLICATE ANALYSES:

Field duplicate samples are collected and analyzed as an indication of overall precision. Field duplicate results are expected to have more variability than laboratory duplicate samples. Non aqueous sample results are expected to have more variation due to the non-homogeneity of soil samples. RPD has been reviewed in these aqueous field duplicate sample analyses. RPD of the aqueous field duplicate target analytes >20 have been estimated "J" qualified in the sample and field duplicate sample.

A field duplicate sample was not listed on the COC documents associated with this data set.

### 11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

Analytical/method QC criteria was met for these analyses except where explained in the laboratory case narrative and detailed in this validation report. The data reported by the laboratory agrees with the raw data provided in the final report with the exception of that detailed in the above report. The laboratory provided a complete data package and reported all data using acceptable protocols and laboratory qualifiers as defined in the report package. All QC anomalies associated with this data set have been explained in the above sections of this DUSR report.

Sample results are reported to the LOQ. Laboratory results between the LOD and LOQ have been "J" qualified by the laboratory. Reporting limits and positive results are adjusted based on the sample volume/weight utilized for each extraction procedure. Dilution analysis was utilized to report any detected target analytes within the calibration range of the instrument. Report data provided for this data set are acceptable for use, with the noted data qualifiers.

Appendix B of this report contains copies of qualified data result pages.

| | |
|---|---|
| **DATA VALIDATION FOR:** | **Semivolatile Organic Compounds (SVOA's), SVOA SIM** |
| **SITE:** | **Queens Library** |
| **LABORATORY Report ID:** | **19L0859** |
| **CONTRACT LAB:** | **York Environmental Laboratories<br>Stratford, CT** |
| **REVIEWER:** | **Renee Cohen** |
| **DATE REVIEW COMPLETED:** | **February 2020** |
| **MATRIX:** | **Groundwater** |

**The data validation was performed according to the guidelines in the USEPA National Functional Guidelines for Organic Data Review and the USEPA Region II SOP HW-6-CLP Organic Data Review Preliminary Review. In addition, method and QC criteria specified in the NYSDEC ASP documents were cited. All data are considered valid and acceptable except those analytes which have been deemed unusable "R" (unreliable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.**

**Table 1 of this report includes a cross reference between the field sample ID and laboratory sample ID's. Copies of the data qualifiers that may be used in this report are located in Appendix A of this report. Qualified data result pages are located in Appendix B of this report. Copies of the Chain of Custody (COC) documents are located in Appendix C of this report.**

**This data assessment is for two (2) groundwater samples, one (1) Field Blank sample and one (1) Trip Blank sample that are listed on the COC documents that accompanied the samples to the laboratory. The samples in this data set were collected on December 20, 2019 and received at the laboratory on December 23, 2019 for the analyses requested on the COC documentation. The samples were analyzed for Volatile Organic Analytes (VOA), Semivolatile Organic Analytes (SVOA)/SVOA SIM, TPH DRO, TPH, GRO, Total Iron, Alkalinity and Sulfate per the COC document which accompanied the samples to the laboratory.**

## ORGANIC DATA ASSESSMENT

### 1. OVERVIEW:

This data review report is for the samples analyzed for Semivolatile Organic Analytes (SVOA's). These analyses were performed in accordance with the NYSDEC ASP methodologies. Data validation will utilize the validation guidelines listed above, however, QA/QC requirements of SW846 will supersede CLP requirements in terms of calibration and holding time where applicable. The groundwater samples were prepared and analyzed for Semivolatile Organic analytes via EPA Method 8270C. York Analytical Laboratories, Inc. generated a stand-alone report for each fraction in compliance with the NYS DEC ASP Category B deliverables. A summary of the applicable QC will be discussed at each section of the report.

### 2. HOLDING TIME:

**The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. The NYS DEC ASP criteria specifies holding times for solid and soil samples. These holding times are based on Validated Time of Sample Receipt (VTSR). The holding times cited in the NY ASP were reviewed.**

**Proper preservation of a soil sample is refrigeration at 4 degrees C until analysis. The holding time criteria for volatile organic samples is that properly soil samples are to be analyzed within ten (10) days of VTSR. The holding time criteria for semivolatile organic samples is that the extraction is to be completed within five (5) days of VTSR and that analysis of the extract is be completed within forty (40) days.**

Two (2) groundwater samples were prepared and analyzed for Semivolatile Organic Analytes (SVOA). The samples associated with this data set were collected December 20, 2019 and received at the laboratory on December 23, 2019. The groundwater samples were extracted in one (1) sample batch (BL91416) on December 26, 2019. Sample extract analysis and sample reanalysis was performed December 27, 2019 and December 30, 2019. The samples in this data set were prepared/extracted and analyzed within the method holding time.

### 3. SURROGATES:

**The samples to be analyzed for Semivolatile Organic Analytes (SVOA) are fortified with the surrogate compounds 2- Fluorophenol, Phenol-d5, 1,2-Nitrobenzene-d5, 2,4, 6-Tribromophenol, Nitrobenzene-d5, 2-Fluorobiphenyl and Terphenyl-d14 prior to sample extraction to evaluate the overall laboratory performance and the efficiency of the analytical technique. The laboratory reported in house QC limits for the Semivolatile Organic surrogates. Sample surrogate recoveries were summarized as required by the deliverable.**

Semivolatile Organic Analyses (EPA Method 8270D) - The surrogate recoveries associated with the groundwater samples reported in this data set met QC criteria in the initial sample analysis. Sample MW-26S was reanalyzed on 12/30/19. The percent recovery of 2-Fluorobiphenol was recovered above QC limit in sample MW-26RE1. No action was taken based on the one surrogate outlier. Sample MW-26S RE2 did not recover 5 of 6 surrogate compounds due to the dilution factor (1:500) utilized to report target analytes within the calibration range of the GCMS.

## 4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD/LABORATORY CONTROL SAMPLE ANALYSES (LCS):

**The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. This data set did not include the analysis of an MS/MSD sample set.**

Semivolatile Organic Analyses - Site-specific QC was not designated with the samples in this data set. Batch QC MS/MSD analyses was not reported with this data set. Sample data has not been qualified based on this QC anomaly.

The laboratory prepared and analyzed one LCS/LCSD with this sample batch. The laboratory applied in house % Recovery criteria and in house RPD criteria in the laboratory report. NJDEP DKQP QC criteria were reviewed. The samples in this data set were prepared in one (1) sample batch (BL91416). The percent recovery of the target analytes in the LCS met QC criteria with the exception of Benzoic Acid (0%/0%). Benzoic Acid has been deemed unreliable "R" qualified in sample MW-26S.

The RPD (%) of reported target analytes met QC criteria with the exception of Aniline (36.2%), and Bis (2-ethylhexylphthalate (22.6%). These target analytes have been estimated "J"/"UJ" qualified in sample MW-26S.

## 5. BLANK CONTAMINATION:

**Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. Samples were only qualified with those QC samples associated with the particular blank.**

### A) Method Blank contamination

Semivolatile Organic Analyses (EPA Method 8270D) – Two (2) method blank sample is associated with the soil samples in this data set. The method blank sample was free from contamination of target analytes.

### B) Field or Equipment Rinse Blank (ERB) contamination

The Field Blank sample was not analyzed for these semivolatile organic analyses.

### C) Trip Blank contamination

The Trip Blank sample was not analyzed for these semivolatile organic analyses.

## ORGANIC DATA ASSESSMENT

### 6. GC/MS CALIBRATION:

**Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance. Region USEPA and Region II criteria is the sample for all analytes in both GC/MS Volatile and GC/MS Semivolatile Organic analyses is the same, therefore, all text discussion is for VOA and SVOA samples analyses.**

### A) RESPONSE FACTOR

**The response factor measures the instrument's response to specific chemical compounds. Region II data review requires that the response factor of all analytes be greater than or equal to 0.05 in both initial and continuing calibration analyses. A value less than 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Region II data validation criteria states that if the minimum RRF criteria is not met in an initial calibration the positive results are qualified "J". Non-detect results in the initial calibration with an RRF <0.05 are qualified "R", unusable. If RRF criteria is not met in the continuing calibration curve analysis, affected positive analytes will be qualified "J" estimated. Those analytes not detected are not qualified. The SW-846 Methods cite specific analytes known as System Performance Check Compounds (SPCC). Minimum response criteria are set for these analytes. If the minimum criteria are not met, analyses must stop, and the source of problems must be found and corrected. Data associated with this set has been reviewed for the criteria in the cited in the EPA Method and the Region II criteria.**

Semivolatile Organic Analyses (EPA Method 8270D) – Two (2) initial calibration curve analyses are associated with this data set. An initial calibration curve analysis was performed on instrument BNA#6 on December 2, 2019 and September 25, 2017 for 8270D SIM analyses.

The RRF of target analytes met QC criteria in each of the initial calibration curve analyses reported in this data set.

One (1) second source calibration standard analysis (File ID: SV627599.D) was prepared and analyzed following with the SVOA calibration curve analysis. RRF criteria was met in this standard analysis.

One (1) second source calibration standard analysis (File ID: SV519108.D) was prepared and analyzed following with the SVOA SIM calibration curve analysis. RRF criteria was met in this standard analysis.

Two (2) continuing calibration standards (SV628148.D, 12/2/19, SV628177.D, SV628178.D) are associated with the initial calibration curve analysis. The RRF of the target compounds met QC criteria in the continuing calibration standard associated with this data set.

**6. GC/MS CALIBRATION (cont'd):**

**B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D):**

**Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the compounds in the continuing calibration standard to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Region II data validation criteria states that the percent RSD of the initial calibration curve must be less than or equal to 20%. The %D must be <20% in the continuing calibration standard. The criteria have been applied to all target analytes. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects may be flagged "UJ", based on professional judgment. If %RSD and %D grossly exceed QC criteria (>90%), non-detects data may be qualified "R", unusable. Data associated with this set has been reviewed for the criteria in the cited in the USEPA Data Validation Guidelines and the USEPA Region II criteria.**

Semivolatile Organic Analyses (EPA Method 8270D)– Two (2) initial calibration curve analyses are associated with this data set. The initial calibration curve analyses were performed on instrument BNA#6 (12/2/19) and BNA #5 (9/25/19).

The %RSD of the target compounds met QC criteria each of the initial calibration curve analysis associated with this data set.

One (1) second source calibration standard analysis (File ID: SV627599.D) was performed following the initial calibration analysis on GCMS instrument BNA #6. QC criteria (0-30%) was applied for the review of this standard.

| Date | Instrument ID | Analyte | %RSD |
|---|---|---|---|
| 12/2/19 | BNA#6 | 2,4-Dinitrophenol | 37.4 |
| | | 4,6-Dinitro-2-methyl phenol | 33.6 |

Qualified data result pages are located in Appendix B of this report.

Two (2) continuing calibration standard analyses are is associated with the field samples and QC samples reported in data set. The % Difference of the target compounds met QC criteria in the continuing calibration standard with the exception of the following:

| Date | Instrument ID | Analyte | % Difference |
|---|---|---|---|
| 12/2/19 | BNA#6*)* | 2,4-Dintrophenol | 78.5 |
| | (SV628148.D) | 4,6-Dinitro-2-methylphenol | 65.6 |
| | | Benzaldehyde | 32.9 |
| | | Benzidine | 68.0 |

Effected target analytes have been estimated "J"/"UJ" qualified in the samples reported in this data set.

Qualified data result pages are located in Appendix B of this report.

## 7. GC/MS INTERNAL STANDARDS PERFORMANCE:

**Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every run. The method recommends that the internal standard area count must not vary by more than a factor of 2 (-50%to +100%) from the associated continuing calibration standard. The method recommends that the retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. The EPA CLP validation guidelines state that if the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified estimated, "J", and all non-detects below 50% are qualified "UJ", non detects above 100% should not be qualified or "R" if there is a severe loss of sensitivity. The internal standard evaluation criteria are applied to all field and QC samples.**

Semivolatile Organic Analyses (EPA Method 8270D) – Each of the field samples and QC samples were fortified with the internal standards 1,4-Diclorobenzene-d4, Naphthalene-d8, Acenaphthene-d10, Phenanthrene-d10, Chrysene-d12 and Perylene-d12 prior to sample analysis. The area counts and retention time shift of each internal standard in each of the non-aqueous samples associated with this data set were reported. The Internal Standard criteria in each of the non-aqueous sample and QC samples reported in this data set met QC criteria.

## 8. GC/MS MASS SPECTROMETER TUNING:

**Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning compound for semivolatile organic analyses is decafluorotriphenylphosphine (DFTPP). If the mass calibration is in error, or missing, all associated data will be classified as unusable, "R".**

Semivolatile Organic Analyses – The tune criteria listed in the data report met or exceeded that required by the method. Tuning criteria associated with these sample analyses met QC criteria.

## ORGANIC DATA ASSESSMENT

### 9. COMPOUND IDENTIFICATION:

**Target compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary ion intensities with 20% of that in the standard compound. Target compounds are identified on the GC by using the analytes retention time. Concentration is quantitated from the initial calibration curve.**

Semivolatile Organic Analyses – Two (2) groundwater sample in this data set was prepared and analyzed for semivolatile organic analyses via EPA Method 8270D. The sample extracts were initially analyzed and reported without dilution. A number of target analytes exceeded the calibration range of the GCMS.

Sample MW-26S was initially prepared (12/26/19) and analyzed on 12/27/19. The sample extract was reanalyzed on December 30, 2019 from a 1:10 dilution to report the concentration of detected target analytes within the calibration range of the GCMS. An additional dilution analysis (1:500) was utilized to report the concentration of Naphthalene within the calibration range of the GCMS.

Sample MW-27S was initially analyzed and reported without dilution analysis. (DF 1:1). The sample extract was analyzed by Method 8270D SIM analysis to report a number of target analytes to a lower reporting limit. The SVOA SIM extract analysis was reanalyzed (DF 1:2) to report the concentration of Acenaphthene (7.51 ug/L).

Target analyte results reported between the laboratory method detection limit and the laboratory reporting limits have been reported and qualified "J" by the laboratory. York Analytical Laboratories applied a "D" qualifier to indicate a detected target analyte result. The "U" qualifier is applied to a non-detect target analyte result. The laboratory reported one (1) result for each reported target analyte.

### 10. FIELD DUPLICATE ANALYSES:

Field duplicate samples are collected and analyzed as an indication of overall precision. Field duplicate results are expected to have more variability than laboratory duplicate samples. Non aqueous sample results are expected to have more variation due to the non-homogeneity of soil samples. RPD has been reviewed in these aqueous field duplicate sample analyses. RPD of the aqueous field duplicate target analytes >20 have been estimated "J" qualified in the sample and field duplicate sample.

A field duplicate sample was not listed on the COC documents associated with this data set.

### 11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

Analytical QC criteria were met for these analyses with the exception of what was described in the above report. The data reported agrees with the raw data provided in the final report. The laboratory provided a complete data package and reported all data using acceptable protocols and laboratory qualifiers as defined in the report package.

The data reported for this data set is acceptable for use, with noted data qualifiers.

The qualified data result pages are located in Appendix B of this report.

| | |
|---|---|
| **DATA VALIDATION FOR:** | **Total Petroleum Hydrocarbons (Diesel Range Organics – DRO)** |
| **SITE:** | **Queens Library** |
| **LABORATORY Report ID:** | **19L0859** |
| **CONTRACT LAB:** | **York Environmental Laboratories<br>Stratford, CT** |
| **REVIEWER:** | **Renee Cohen** |
| **DATE REVIEW COMPLETED:** | **February 2020** |
| **MATRIX:** | **Groundwater** |

**The data validation was performed according to the guidelines in the USEPA National Functional Guidelines for Organic Data Review and the USEPA Region II SOP HW-6-CLP Organic Data Review Preliminary Review. In addition, method and QC criteria specified in the NYSDEC ASP documents were cited. All data are considered valid and acceptable except those analytes which have been deemed unusable "R" (unreliable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.**

**Table 1 of this report includes a cross reference between the field sample ID and laboratory sample ID's. Copies of the data qualifiers that may be used in this report are located in Appendix A of this report. Qualified data result pages are located in Appendix B of this report. Copies of the Chain of Custody (COC) documents are located in Appendix C of this report.**

**This data assessment is for two (2) groundwater samples, one (1) Field Blank sample and one (1) Trip Blank sample that are listed on the COC documents that accompanied the samples to the laboratory. The samples in this data set were collected on December 20, 2019 and received at the laboratory on December 23, 2019 for the analyses requested on the COC documentation. The samples were analyzed for Volatile Organic Analytes (VOA), Semivolatile Organic Analytes (SVOA), TPH DRO, TPH GRO, Total Iron, Alkalinity and Sulfate per the COC document which accompanied the samples to the laboratory.**

**ORGANIC DATA ASSESSMENT**

## 1. OVERVIEW:

This data review report is for the samples analyzed for Total Petroleum Hydrocarbons – Diesel Range Organics (DRO). These analyses were performed in accordance with the NYSDEC ASP methodologies. Data validation will utilize the validation guidelines listed above, however, QA/QC requirements of SW846 will supersede CLP requirements in terms of calibration and holding time where applicable. The groundwater samples were prepared and analyzed for Diesel Range Organics/TPH via EPA Method 8015D. York Analytical Laboratories, Inc. generated a stand-alone report for each fraction in compliance with the NYS DEC ASP Category B deliverables. A summary of the applicable QC will be discussed at each section of the report.

## 2. HOLDING TIME:

**The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. The NYS DEC ASP criteria specifies holding times for solid and soil samples. These holding times are based on Validated Time of Sample Receipt (VTSR). The holding times cited in the NY ASP were reviewed.**

**Proper preservation of a soil sample is refrigeration at 4 degrees C until analysis. The holding time criteria for volatile organic samples is that properly soil samples are to be analyzed within ten (10) days of VTSR. The holding time criteria for semivolatile organic samples is that the extraction is to be completed within five (5) days of VTSR and that analysis of the extract is be completed within forty (40) days.**

Two (2) groundwater samples were prepared and analyzed for TPH-DRO. The samples associated with this data set were collected December 20, 2019 and received at the laboratory on December 23, 2019. The groundwater samples were extracted in one (1) sample batch (BL91446) on December 27, 2019. Sample extract analysis was performed December 27, 2019. The samples in this data set were prepared/extracted and analyzed within the method holding time.

## 3. SURROGATES:

**The samples to be analyzed for Total Petroleum Hydrocarbons – Diesel Range Organics were fortified with the surrogate compound Triacontane prior to sample extraction to evaluate the overall laboratory performance and the efficiency of the analytical technique. The laboratory reported in house QC limits (40-150%) for the Diesel Range Organics surrogate compounds. Sample surrogate recoveries were summarized as required by the deliverable.**

The surrogate recovery associated with these groundwater samples set met QC criteria in the reported sample analyses.

## 4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD/LABORATORY CONTROL SAMPLE ANALYSES (LCS):

**The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. This data set did not include the analysis of an MS/MSD sample set.**

Site-specific MS/MSD and/or Batch QC MS/MSD was not designated and/or reported with the samples in this data set. Sample data has not been qualified based on this QC anomaly.

The laboratory prepared and analyzed one LCS/LCSD with this sample batch. The laboratory applied in house % Recovery criteria and in house RPD criteria in the laboratory report. NJDEP DKQP QC criteria were reviewed. The samples in this data set were prepared in one (1) sample batch (BL91446). The percent (%) recovery in the LCS and LCSD met in-house QC criteria. RPD (%) in the LCS/LCSD met in-house QC criteria.

## 5. BLANK CONTAMINATION:

**Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. Samples were only qualified with those QC samples associated with the particular blank.**

**A) Method Blank contamination**

One (1) method blank sample (BL91446) is associated with the samples in this data set. The method blank sample was free from contamination of target analytes.

**B) Field or Equipment Rinse Blank (ERB) contamination**

The Field Blank sample was not analyzed for these analyses.

**C) Trip Blank contamination**

The Trip Blank sample was not analyzed for these analyses.

## 6. GC CALIBRATION:

**Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.**

One (1) multi-level initial calibration curve analysis is associated with this data set. An initial calibration curve analysis was performed on instrument Fuel 1 (January 18, 2019). One (1) initial calibration verification standard (ICV) was analyzed following the initial calibration curve analysis. QC criteria was met in the ICV standard analysis.

The RRF of target analytes met QC criteria in the initial calibration curve analysis reported in this data set.

One (1) continuing calibration standard (GC915315.D/12/27/19) is associated with the samples reported in this data set. QC criteria was met in the CC standard analysis.

## 7. COMPOUND IDENTIFICATION:

**Target compounds are identified on the GC by using the analyte's relative retention time (RRT) and pattern peaks in comparison to the known standards. Concentration is quantitated from the initial calibration curve.**

The monitoring well samples listed on the COC documents were analyzed for Diesel Range Organics (DRO). DRO results reported between the laboratory method detection limit and the laboratory reporting limits have been reported and qualified "J" by the laboratory. York Analytical Laboratories applied a "D" qualifier to indicate a detected target analyte result. The "U" qualifier is applied to a non-detect target analyte result.

## 8. LABORATORY CONTROL SAMPLE ANALYSIS (LCS):

The laboratory control sample (LCS) analysis provides information about the efficiency of the laboratory digestion procedure. If the recovery of any analyte is outside the established control limits, then laboratory performance and method accuracy are in question. Professional judgment is used to determine of data should be qualified or rejected.

The laboratory prepared and analyzed one (1) Laboratory Control Sample (LCS) with each of the wet chemistry analyses reported in this data set. The % Recovery of the reported analyte met QC criteria in each of the reported wet chemistry analytes reported in this data set.

## 9. COMPOUND IDENTIFICATION:

Sample results are reported in accordance with the cited methods. A review of the raw data was performed for these wet chemistry analyses. Sample results were reported in accordance with the analytical method. The laboratory applied a "J" qualifier to report a target analyte result between the laboratory MDL and laboratory RL.

Non detect sample results are reported to the base reporting limit. Detected target analyte results are reported within the calibration range of the instrument. If the detected target analyte result exceeded the calibration range of the method, dilution analysis was performed to report the target analyte result within the calibration range.

## 10. FIELD DUPLICATE/LABORATORY DUPLICATE DATA:

Field duplicate samples are taken and analyzed as an indication of overall precision. The field duplicate sample analyses measure both field and laboratory precision; therefore, the results may have more variability than lab duplicate samples. A Field Duplicate sample analysis is not associated with this data set.

Site specific laboratory duplicate analysis was reported for these wet chemistry analyses. Laboratory duplicate RPD (%) for Alkalinity and Sulfate analyses met QC criteria.

## 11. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT:

Analytical QC criteria were met for these analyses with the exception of what was described in the above report. The data reported agrees with the raw data provided in the final report. The laboratory provided a complete data package and reported all data using acceptable protocols and laboratory qualifiers as defined in the report package.

The data reported for this data set is acceptable for use, without data qualifiers.

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| **DATA VALIDATION FOR:** | **Total Petroleum Hydrocarbons (Gasoline Range Organics – GRO)** |
| **SITE:** | **Queens Library** |
| **LABORATORY Report ID:** | **19L0859** |
| **CONTRACT LAB:** | **York Environmental Laboratories Stratford, CT** |
| **REVIEWER:** | **Renee Cohen** |
| **DATE REVIEW COMPLETED:** | **February 2020** |
| **MATRIX:** | **Groundwater** |

**The data validation was performed according to the guidelines in the USEPA National Functional Guidelines for Organic Data Review and the USEPA Region II SOP HW-6-CLP Organic Data Review Preliminary Review. In addition, method and QC criteria specified in the NYSDEC ASP documents were cited. All data are considered valid and acceptable except those analytes which have been deemed unusable "R" (unreliable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.**

**Table 1 of this report includes a cross reference between the field sample ID and laboratory sample ID's. Copies of the data qualifiers that may be used in this report are located in Appendix A of this report. Qualified data result pages are located in Appendix B of this report. Copies of the Chain of Custody (COC) documents are located in Appendix C of this report.**

**This data assessment is for two (2) groundwater samples, one (1) Field Blank sample and one (1) Trip Blank sample that are listed on the COC documents that accompanied the samples to the laboratory. The samples in this data set were collected on December 20, 2019 and received at the laboratory on December 23, 2019 for the analyses requested on the COC documentation. The samples were analyzed for Volatile Organic Analytes (VOA), Semivolatile Organic Analytes (SVOA), TPH DRO, TPH GRO, Total Iron, Alkalinity and Sulfate per the COC document which accompanied the samples to the laboratory.**

## ORGANIC DATA ASSESSMENT

### 1. OVERVIEW:

This data review report is for the samples analyzed for Gasoline Range Hydrocarbons – Gasoline Range Organics (GRO). These analyses were performed in accordance with the NYSDEC ASP methodologies. Data validation will utilize the validation guidelines listed above, however, QA/QC requirements of SW846 will supersede CLP requirements in terms of calibration and holding time where applicable. The groundwater samples were prepared and analyzed for Gasoline Range Organics/TPH via EPA Method 8015D. York Analytical Laboratories, Inc. generated a stand-alone report for each fraction in compliance with the NYS DEC ASP Category B deliverables. A summary of the applicable QC will be discussed at each section of the report.

### 2. HOLDING TIME:

**The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. The NYS DEC ASP criteria specifies holding times for solid and soil samples. These holding times are based on Validated Time of Sample Receipt (VTSR). The holding times cited in the NY ASP were reviewed.**

**Proper preservation of a soil sample is refrigeration at 4 degrees C until analysis. The holding time criteria for volatile organic samples is that properly soil samples are to be analyzed within ten (10) days of VTSR.**

Two (2) groundwater samples were prepared and analyzed for TPH-GRO. The samples associated with this data set were collected December 20, 2019 and received at the laboratory on December 23, 2019. The groundwater samples were analyzed December 30-31, 2019. The samples in this data set were analyzed within the method holding time.

### 3. SURROGATES:

**The samples to be analyzed for Total Petroleum Hydrocarbons – Gasoline Range Organics were fortified with the surrogate compound 4-Bromofluorobenzene prior to sample analysis to evaluate the overall laboratory performance and the efficiency of the analytical technique. The laboratory reported in house QC limits (70-130%) for these Gasoline Range Organics analyses. Sample surrogate recoveries were summarized as required by the deliverable.**

The surrogate recovery associated with these groundwater samples set met QC criteria.

### 4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD/LABORATORY CONTROL SAMPLE ANALYSES (LCS):

**The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. This data set did not include the analysis of an MS/MSD sample set.**

Site-specific MS/MSD and/or Batch QC MS/MSD was not designated and/or reported with the samples in this data set. Sample data has not been qualified based on this QC anomaly.

The laboratory prepared and analyzed one LCS sample. The laboratory applied in house % Recovery criteria and in house RPD criteria in the laboratory report. NJDEP DKQP QC criteria were reviewed. The samples in this data set were prepared in one (1) sample batch (BL91603). The percent (%) recovery in the LCS met in-house QC criteria. .

# ORGANIC DATA ASSESSMENT

## 5. BLANK CONTAMINATION:

**Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. Samples were only qualified with those QC samples associated with the particular blank.**

### A) Method Blank contamination

One (1) method blank sample (BL91603) is associated with the samples in this data set. The method blank sample was free from contamination of target analytes.

### B) Field or Equipment Rinse Blank (ERB) contamination

The Field Blank sample was not analyzed for TPH GRO analyses.

### C) Trip Blank contamination

The Trip Blank sample was not analyzed for TPH GRO analyses.

## 6. GC CALIBRATION

**Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.**

One (1) multi-level initial calibration curve analysis is associated with this data set (10/30/19 – GCGRO). One (1) CCV standard was analyzed (12/30/19_GG719580.D (12/30/19) prior to sample analysis. QC criteria was met in these calibration analyses.

## 7. LABORATORY CONTROL SAMPLE ANALYSIS (LCS)

The laboratory control sample (LCS) analysis provides information about the efficiency of the laboratory digestion procedure. If the recovery of any analyte is outside the established control limits, then laboratory performance and method accuracy are in question. Professional judgment is used to determine of data should be qualified or rejected.

The laboratory analyzed one (1) Laboratory Control Sample (LCS) with the GRO analyses. The recovery of TPH-GRO met in house QC limit.

## 8. COMPOUND IDENTIFICATION

Sample results are reported in accordance with the cited methods. A review of the raw data was performed for these TPH GRO analyses. Sample results were reported in accordance with the analytical method. Sample results are reported in mg/L.

# ORGANIC DATA ASSESSMENT

## 9. FIELD DUPLICATE/LABORATORY DUPLICATE DATA RESULTS:

Field duplicate samples are taken and analyzed as an indication of overall precision. The field duplicate sample analyses measure both field and laboratory precision; therefore, the results may have more variability than lab duplicate samples. A Field Duplicate sample analysis is not associated with this data set.

Laboratory duplicate analyses were not reported with these TPH-GRO analyses.

## 10. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The TPH GRO analyses associated with the two monitoring well (MW) samples were reported and analyzed for the parameters listed on the COC documents that accompanied the samples to the laboratory.

The Field Blank sample and the Trip Blank sample were not analyzed for TPH GRO. The TPH GRO analyses are reported without dilution analysis.

These sample results are acceptable for use without data qualifiers.

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| **DATA VALIDATION FOR:** | **Total Iron (Fe)** |
| **SITE:** | **Queens Library** |
| **PROJECT NUMBER:** | **19L0859** |
| **CONTRACT LAB:** | **York Analytical Laboratories, Inc.<br>Stratford, CT** |
| **REVIEWER:** | **Renee Cohen** |
| **DATE REVIEW COMPLETED:** | **February 2020** |
| **MATRIX:** | **Aqueous** |

**The data validation was performed according to the guidelines in the SOP No. HW-2 (Revision 13), September 2006 for the Evaluation of Metal Data for the Contract Laboratory Program. All data are considered valid and acceptable except those analytes which have been rejected "R" (unusable/unreliable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.**

**The "R" flag means that the associated value is unusable. In other words, significant data bias is evident, and the reported analyte concentration is unreliable.**

**Appendix A of this report contains a copy of the definitions that may be used in this report. Appendix B of this report contains the qualified data result pages associated with this data set. Appendix C of this report contains a copy of the Chain of Custody (COC) documents that accompanied the samples to the laboratory.**

**This data assessment is for the aqueous samples that were marked on the Chain of Custody documents for A cross-reference between Field Sample ID and Laboratory Sample ID is located in Table 1 of this report.**

**The samples in these data set were collected on December 20, 2019 and received at the laboratory on December 23, 2019. The COC document listed the samples in this data set. The samples were analyzed for the parameters listed on the chain of custody documents that accompanied the samples to the laboratory. A copy of the COC documents associated with his data set is located in Appendix C of this report.**

## INORGANIC DATA ASSESSMENT

### 1. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Metals with the exception of Mercury, are required to be digested and analyzed within 180 days of Verified Time of Sample Receipt (VTSR). Mercury samples are to be digested and analyzed within 26 days of VTSR.

The laboratory prepared, analyzed and reported the project specified metals in each of the aqueous samples reported in this data set. The samples were prepared/digested for Total ICP Metals in one (1) sample batch on December 20, 2019. These sample digestates were analyzed in one (1) ICP analytical sequence on December 30, 2019. Holding time criteria for sample preparation and sample analysis was met for the samples reported in this data set.

### 2. CALIBRATION ANALYSIS

Inductively Coupled Plasma (ICP) was utilized for these analyses. The ICP was calibrated using a single point standard as required by the manufacturer. The initial calibration verification (ICV) standard was then analyzed to verify instrument calibration. ICV criteria (70-130%) was met in these sequences. The ICP metal analyses were analyzed in one (1) analytical sequence on December 30, 2019 on instrument Nexion2000C. Recovery of the ICV standard in the analytical sequence met QC criteria. Continuing calibration verification (CCV) standards were then analyzed after each ten (10) field samples in the sequence. CCV percent recoveries met QC criteria.

### 3. CRDL STANDARD

**The CRDL standard is used for the verification of instrument linearity near the CRDL. The CRDL standard control limits are 70-130% recovery. If the CRDL standard falls outside of the control limits, associated data less than or equal to the 10X the CRDL are qualified estimated (J or UJ) or rejected (R) depending on the recovery of the CRDL standard and the concentration of the analyte in the sample. When the CRDL standard exceeds the control limit, indicating a high bias, and the associated sample results are reported non-detect, no action is taken. When the CRDL standard exceeds the control limit, indicating a high bias positive sample results are qualified estimated (J).**

The samples in this data set were analyzed for Total Iron. The analytical sequence associated with this data set included an ICP CRDL standard. The percent recovery of the reported target analyte met QC criteria (75-125%) in the CRDL standard reported in this data set.

### 4. INTERFERENCE CHECK STANDARD

**The Interference Check Standard (ICS) is used to verify the laboratory interelement and background correction factors of the ICP. Two solutions comprise the ICS A and ICS AB. Solution A consists of the interferent metals while solution AB is the group of target analytes and the interferent metals. An ICS analysis consists of analyzing both solutions consecutively for all wavelengths used for each analyte reported by ICP.**

The samples in this data set were analyzed for Total and Dissolved Iron. ICSA and ICSAB recovery reported in the analytical sequence met QC criteria (80-120%).

## 5. MATRIX SPIKE ANALYSIS

**The spike sample analysis provides information about the effect of the sample matrix upon the digestion and measurement methodology. The spike control limits are 75%-125% when the sample concentration is less than four (4) times the spike added. If the matrix spike recoveries fall in the range of 30%-74%, the sample results are may be biased low and are qualified as estimated (J or UJ). If the matrix spike recoveries fall in the range of 126%-200%, sample results may be biased high. Positive results are qualified estimated (J). If the spike recovery is greater than 125% and the reported sample result is less than the IDL the data point is acceptable for use. If the matrix spike recovery is greater than 200%, the associated sample data are unusable and are rejected (R). If matrix spike results are less than 30%, the associated non-detect results are qualified unusable and rejected (R), and the results reported above the IDL are qualified estimated (J).**

Site specific MS/MSD and/or Batch QC MS/MSD analyses are not reported with this data set. Sample data has not been qualified based on this QC outlier.

## 6. POST DIGESTION SPIKE ANALYSIS

**The post digestion spike sample analysis provides additional information about the effect of the sample matrix upon the digestion and measurement methodology. The post digestion spike is performed for each analyte that the pre-digestion spike recovery falls outside the 75-125% control limit.**

Post digestion matrix spike analysis (PDS) is not associated with this data set.

## 7. DUPLICATE SAMPLE ANALYSIS

**The duplicate sample analysis is used to evaluate the precision of the methods for each parameter. If the duplicate sample analysis results for a particular analyte fall outside the control windows of 20% RPD or =/- CRDL, whichever is appropriate depending upon the concentration of the sample, the associated sample results are qualified "J" estimated.**

Site specific laboratory duplicate sample analysis was not prepared/analyzed and reported in this data set. Batch QC duplicate analyses are not reported in this data set. Sample data has not been qualified based on this QC outlier.

## 8. ICP SERIAL DILUTION ANALYSIS

**The serial dilution analysis indicates whether significant physical or chemical interferences exist due to the sample matrix. If the concentration of any analyte in the original sample is greater than 50 times the instrument detection limit (IDL), an analysis of a 5-fold dilution samples must yield results which have a percent difference (%D) of less than or equal to 10 with the original sample results. If the %D of the serial dilution exceeds the 10% (and is not greater than 100%) for a particular analyte, all the associated sample results are qualified estimated (J).**

ICP Serial Dilution analysis is not associated with this data set. Sample data has not been qualified based on this QC sample.

## INORGANIC DATA ASSESSMENT

### 9. BLANKS

**Blank analyses are assessed to determine the existence and magnitude of contamination problems. The criteria used for the evaluation of blanks applies to all blanks, including but not limited to reagent blanks, method blanks and field blanks. The responsibility for action in the case of an unsuitable blank result depends upon the circumstances and the origin of the blank itself. If the problem with any blank exists, then all associated data must be carefully evaluated to determine whether there is inherent variability in the data for that case, or the problem is an isolated occurrence not affecting other data.**

One (1) method blank sample is associated with this data set. The method blank sample detected Iron at a concentration of 1.38 ug/L. The concentration of Iron in the field samples reported in this data sets was higher than that attributed to the method blank sample. Sample data has not been qualified based on the results of Iron in the method blank sample.

### 10. LABORATORY CONTROL SAMPLE ANALYSIS

**The laboratory control sample (LCS) analysis provides information about the efficiency of the digestion procedure. If the recovery of any analyte is outside the reported in-house control limits, then laboratory performance and method accuracy are in question. Professional judgment is used to determine of data should be qualified or rejected.**

One (1) sample batch is associated with this data set. The laboratory applied QC limits (90-110%) to the laboratory control sample (LCS) recovery. The recovery of target analytes met QC criteria in each of the LCS sample reported in this data set.

### 11. SAMPLE RESULTS DATA

Laboratory report 19L0859 reports the analytical results of the review of two (2) aqueous samples for Total Iron (Fe). The samples in this data set were prepared and analyzed for Total Iron. Target analyte results were reported in ug/L (ppb). Samples were analyzed in accordance with the cited methods. York Analytical Laboratories, Inc. reported detected analyte results above the laboratory reporting limit (RL).

### 12. FIELD DUPLICATE SAMPLE DATA

Field duplicate samples are collected and analyzed as an indication of overall precision. These results are expected to have more variability than laboratory duplicate samples. Soil samples will have a greater variance due to the difficulties associated with collecting exact duplicate soil samples than aqueous samples. RPD < than 20% in these aqueous sample analyses indicates acceptable precision.

Field Duplicate sample analyses are not associated with this data set.

### 13. INSTRUMENT QC DATA

The laboratory is required by the method to perform specific instrument verification tests on a specific timeframe. Based on a review of the QC summary forms included in the data report, this QC criteria has been met.

### 14. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

This data review report includes the analysis of the samples marked on the Chain of Custody documents for Total Iron. Sample results have been reported in accordance with the cited methods. The data associated with this data set is acceptable for use without data qualifiers.

# NYS DEC Data Usability Summary Report

| | |
|---|---|
| **DATA VALIDATION FOR:** | **Miscellaneous Wet Chemistry** |
| **SITE:** | **Queens Library** |
| **CONTRACT LAB:** | **York Analytical Laboratories, Inc.<br>Stratford, CT** |
| **REPORT NO.:** | **19L0859** |
| **REVIEWER:** | **Renee Cohen** |
| **DATE REVIEW COMPLETED:** | **February 2020** |
| **MATRIX:** | **Groundwater** |

The Chain of Custody (COC) documentation associated with this data set listed two (2) monitoring well samples, one (1) Field Blank sample and one Trip blank sample. The samples were collected December 20, 2019 and received at the laboratory on December 23, 2019.

The data evaluation was performed according to the guidelines and QC criteria cited in the miscellaneous wet chemistry methods that were used for this data set. A Data Usability Summary Report (DUSR) has been prepared in accordance with the guidelines of the Division of Environmental Remediation.

Several factors should be noted for all persons using this data. Persons using this data should be aware that no result is guaranteed to be accurate even if it has passed all QC tests. The main purpose of this review is to appropriately qualify outliers and to determine whether the results presented meet the specific site/project criteria for data quality and data use.

Table 1 of this report contains a cross reference between the Field Sample ID's and the Laboratory Sample ID's. Appendix A of this Data Usability Summary Report (DUSR) contains a summary of the data qualifiers that may be used in the report. Appendix B contains the qualified data result pages. Appendix C contains the Chain of Custody (COC) documents associated with this data set.

The laboratory performed these wet chemistry analyses based on the COC documentation that accompanied the samples to the laboratory. In addition, these samples were analyzed for Volatile Organic Analytes (VOA), Semivolatile Organic analyses (SVOC) , Total Petroleum Hydrocarbons GRO and DRO and Total Iron.
The review of these various analyses is reported in stand-alone DUS reports. This data review is associated with the Miscellaneous Wet Chemistry Analyses.

# DATA USABILITY SUMMARY REPORT (DUSR)

## 1. OVERVIEW

This data report includes the review of the aqueous samples that were collected December 20, 2019 and received at the laboratory December 22, 2019. The samples were received in good condition.

Table 1 of this report is a cross reference between the field sample ID and laboratory sample ID. Two (2) field samples, one (1) Field Blank sample and one (1) Trip Blank sample were submitted to the laboratory for the analyses listed on the COC documents.

The samples in this data set were analyzed for the parameters listed on the COC documents. A full data deliverable was generated to report these sample results. The aqueous samples in this data set were analyzed for miscellaneous Wet Chemistry analytes. This data review is associated with these Sulfate and Alkalinity analyses.

## 2. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid.

The laboratory chronicles list the date of analysis for each of the Miscellaneous Wet Chemistry analyses. The holding time for each of the reported analyses is reported on the analytical result pages located in Appendix B of this report. Sample results are reported within the method holding time.

Sulfate – The samples in this data set were prepared and analyzed on December 24, 2019.
Alkalinity – The samples int his data set were prepared and analyzed on December 27, 2019.

## 3. CALIBRATION ANALYSIS

The laboratory summarized the initial and continuing calibration data associated with each of the wet chemistry analytes where applicable. Initial and continuing calibration standard analyses associated with this data set met QC criteria for each of the analytes reported in this data set.

## 4. MATRIX SPIKE (MS) ANALYSIS

The spike sample analysis provides information about the effect of the sample matrix upon the digestion and measurement methodology. The spike control limits are designated by York Analytical Laboratories, Inc. The in-house recovery limits are cited on the QC summary report pages for each analyte where applicable.

Site specific Sulfate matrix spike (MS) analysis on sample MW-27S. The percent recovery was outside QC limit however, no action was taken based on the concentration of Sulfate in the unspiked sample versus the matrix spike concentration.

## 5. DUPLICATE SAMPLE ANALYSIS

The laboratory duplicate sample analysis is used to evaluate the laboratory precision of the method for each analyte. If the duplicate sample analysis results for a particular analyte fall outside the control windows of 20% RPD depending upon the concentration of the sample, the associated sample results are qualified "J" estimated.

Laboratory Duplicate sample analyses is reported for both the Sulfate and Alkalinity analyses reported int his data set. Sample MW-26S was analyzed in duplicate for Sulfate. The RPD (%) met QC criteria, Sample MW-27S was analyzed in Duplicate for Alkalinity. The RPD (%) met QC criteria.

# DATA USABILITY SUMMARY REPORT (DUSR)

## 6. BLANKS

Blank analyses are assessed to determine the existence and magnitude of contamination problems. The criteria for the evaluation of blanks applies to all blanks, including but not limited to reagent blanks, method blanks and field blanks. The responsibility for action in the case of an unsuitable blank result depends upon the circumstances and the origin of the blank itself. If the problem with any blank exists, then all associated data must be carefully evaluated to determine whether there is inherent variability in the data for that case, or the problem is an isolated occurrence not affecting other data.

The laboratory provided Method Blank data results for each of the Wet Chemistry analyte where applicable. The method blank and/or preparation blanks associated with these miscellaneous Wet Chemistry methods were free from contamination of the target analyte above the reporting limit.

The Field Blank (FB) sample was not analyzed for Sulfate and/or Alkalinity.

## 7. LABORATORY CONTROL SAMPLE ANALYSIS (LCS)

The laboratory control sample (LCS) analysis provides information about the efficiency of the laboratory digestion procedure. If the recovery of any analyte is outside the established control limits, then laboratory performance and method accuracy are in question. Professional judgment is used to determine of data should be qualified or rejected.

The laboratory prepared and analyzed one (1) Laboratory Control Sample (LCS) with each of the wet chemistry analyses reported in this data set. The % Recovery of the reported analyte met QC criteria in each of the reported wet chemistry analytes reported in this data set.

## 8. COMPOUND IDENTIFICATION

Sample results are reported in accordance with the cited methods. A review of the raw data was performed for these wet chemistry analyses. Sample results were reported in accordance with the analytical method. The laboratory applied a "J" qualifier to report a target analyte result between the laboratory MDL and laboratory RL.

Non detect sample results are reported to the base reporting limit. Detected target analyte results are reported within the calibration range of the instrument. If the detected target analyte result exceeded the calibration range of the method, dilution analysis was performed to report the target analyte result within the calibration range.

## 9. FIELD DUPLICATE/LABORATORY DUPLICATE DATA RESULTS:

Field duplicate samples are taken and analyzed as an indication of overall precision. The field duplicate sample analyses measure both field and laboratory precision; therefore, the results may have more variability than lab duplicate samples. A Field Duplicate sample analysis is not associated with this data set.

Site specific laboratory duplicate analysis was reported for these wet chemistry analyses. Laboratory duplicate RPD (%) for Alkalinity and Sulfate analyses met QC criteria.

# DATA USABILITY SUMMARY REPORT (DUSR)

## 10. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The inorganic wet chemistry analyses associated with the two monitoring well (MW) samples were reported and analyzed for the parameters listed on the COC documents that accompanied the samples to the laboratory.

The Field Blank sample and the Trip Blank sample were not analyzed for these wet chemistry analyses.

A copy of the associated Chain of Custody documents is located in Appendix C of this report. The sample results are reported in accordance with the cited methods.

The miscellaneous wet chemistry analyte results reported in this data set are acceptable for use without data qualifiers.

**TABLE 1**

| FIELD SAMPLE ID | LABORATORY ID |
|---|---|
| MW-26S | 19L0859-01 |
| MW-27S | 19L0859-02 |
| Field Blank | 19L0859-03 |
| Trip Blank | 19L0859-04 |

# APPENDIX A

## DATA QUALIFIER DEFINITIONS

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

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

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

# APPENDIX B

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**MW-26S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-01 | File ID: | V737645.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/24/19 12:30 | Analyzed: | 12/25/19 13:38 |
| Solids: | | Preparation: | EPA 5030B | Initial/Final: | 25 mL / 25 mL |
| Batch: | BL91325 | Sequence: | Y9L2706 | Calibration: | YJ90021 |
| Instrument: | MSVOA7 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 200 | 100 | U | |
| 71-55-6 | 1,1,1-Trichloroethane | 200 | 100 | U | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 200 | 100 | U | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 200 | 100 | U | |
| 79-00-5 | 1,1,2-Trichloroethane | 200 | 100 | U | |
| 75-34-3 | 1,1-Dichloroethane | 200 | 100 | U | |
| 75-35-4 | 1,1-Dichloroethylene | 200 | 100 | U | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 200 | 100 | U | UJ |
| 96-18-4 | 1,2,3-Trichloropropane | 200 | 100 | U | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 200 | 100 | U | UJ |
| 95-63-6 | 1,2,4-Trimethylbenzene | 200 | 280 | D | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 200 | 100 | U | |
| 106-93-4 | 1,2-Dibromoethane | 200 | 100 | U | |
| 95-50-1 | 1,2-Dichlorobenzene | 200 | 100 | U | |
| 107-06-2 | 1,2-Dichloroethane | 200 | 100 | U | |
| 78-87-5 | 1,2-Dichloropropane | 200 | 100 | U | |
| 108-67-8 | 1,3,5-Trimethylbenzene | 200 | 96 | JD | |
| 541-73-1 | 1,3-Dichlorobenzene | 200 | 100 | U | |
| 106-46-7 | 1,4-Dichlorobenzene | 200 | 100 | U | |
| 123-91-1 | 1,4-Dioxane | 200 | 8000 | U | R |
| 78-93-3 | 2-Butanone | 200 | 400 | U | |
| 591-78-6 | 2-Hexanone | 200 | 100 | U | |
| 108-10-1 | 4-Methyl-2-pentanone | 200 | 100 | U | |
| 67-64-1 | Acetone | 200 | 400 | U | |
| 107-02-8 | Acrolein | 200 | 400 | U | |
| 107-13-1 | Acrylonitrile | 200 | 100 | U | |
| 71-43-2 | Benzene | 200 | 3400 | D | |
| 74-97-5 | Bromochloromethane | 200 | 100 | U | |
| 75-27-4 | Bromodichloromethane | 200 | 100 | U | |
| 75-25-2 | Bromoform | 200 | 100 | U | |
| 74-83-9 | Bromomethane | 200 | 100 | U | |
| 75-15-0 | Carbon disulfide | 200 | 100 | U | |
| 56-23-5 | Carbon tetrachloride | 200 | 100 | U | |
| 108-90-7 | Chlorobenzene | 200 | 100 | U | |
| 75-00-3 | Chloroethane | 200 | 100 | U | |
| 67-66-3 | Chloroform | 200 | 100 | U | |
| 74-87-3 | Chloromethane | 200 | 100 | U | |
| 156-59-2 | cis-1,2-Dichloroethylene | 200 | 100 | U | |
| 10061-01-5 | cis-1,3-Dichloropropylene | 200 | 100 | U | |
| 110-82-7 | Cyclohexane | 200 | 100 | U | |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**MW-26S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-01 | File ID: | V737645.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/24/19 12:30 | Analyzed: | 12/25/19 13:38 |
| Solids: | | Preparation: | EPA 5030B | Initial/Final: | 25 mL / 25 mL |
| Batch: | BL91325 | Sequence: | Y9L2706 | Calibration: | YJ90021 |
| Instrument: | MSVOA7 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | 200 | 100 | U | |
| 74-95-3 | Dibromomethane | 200 | 100 | U | |
| 75-71-8 | Dichlorodifluoromethane | 200 | 100 | U | |
| 100-41-4 | Ethyl Benzene | 200 | 720 | D | |
| 87-68-3 | Hexachlorobutadiene | 200 | 100 | U | |
| 98-82-8 | Isopropylbenzene | 200 | 100 | U | |
| 79-20-9 | Methyl acetate | 200 | 100 | U | |
| 1634-04-4 | Methyl tert-butyl ether (MTBE) | 200 | 100 | U | |
| 108-87-2 | Methylcyclohexane | 200 | 100 | U | |
| 75-09-2 | Methylene chloride | 200 | 400 | U | |
| 104-51-8 | n-Butylbenzene | 200 | 100 | U | |
| 103-65-1 | n-Propylbenzene | 200 | 100 | U | |
| 95-47-6 | o-Xylene | 200 | 840 | D | |
| 179601-23-1 | p- & m- Xylenes | 200 | 1200 | D | |
| 99-87-6 | p-Isopropyltoluene | 200 | 100 | U | |
| 135-98-8 | sec-Butylbenzene | 200 | 100 | U | |
| 100-42-5 | Styrene | 200 | 100 | U | |
| 75-65-0 | tert-Butyl alcohol (TBA) | 200 | 500 | U | |
| 98-06-6 | tert-Butylbenzene | 200 | 100 | U | |
| 127-18-4 | Tetrachloroethylene | 200 | 100 | U | UJ |
| 108-88-3 | Toluene | 200 | 510 | D | |
| 156-60-5 | trans-1,2-Dichloroethylene | 200 | 100 | U | |
| 10061-02-6 | trans-1,3-Dichloropropylene | 200 | 100 | U | |
| 110-57-6 | trans-1,4-dichloro-2-butene | 200 | 100 | U | |
| 79-01-6 | Trichloroethylene | 200 | 100 | U | |
| 75-69-4 | Trichlorofluoromethane | 200 | 100 | U | |
| 75-01-4 | Vinyl Chloride | 200 | 100 | U | |
| 1330-20-7 | Xylenes, Total | 200 | 2000 | D | |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 1,2-Dichloroethane-d4 | 10.0 | 10.4 | 104 | 69 - 130 | D |
| SURR: Toluene-d8 | 10.0 | 9.81 | 98.1 | 81 - 117 | D |
| SURR: p-Bromofluorobenzene | 10.0 | 10.2 | 102 | 79 - 122 | D |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: Fluorobenzene | 43738 | 5.825 | 53043 | 5.823 | |
| ISTD: Chlorobenzene-d5 | 216957 | 8.852 | 256028 | 8.855 | |
| ISTD: 1,2-Dichlorobenzene-d4 | 76392 | 11.843 | 102086 | 11.843 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**MW-27S**

Laboratory: York Analytical Laboratories, Inc. SDG: 19L0859

Client: J.C. Broderick Project: 19-44493 Queens Library

Matrix: Water Laboratory ID: 19L0859-02 File ID: V816036.D

Sampled: 12/20/19 00:00 Prepared: 12/31/19 07:30 Analyzed: 12/31/19 12:58

Solids: Preparation: EPA 5030B Initial/Final: 25 mL / 25 mL

Batch: BL91544 Sequence: Y9L3129 Calibration: YL90030 Instrument: VOA No. 8

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 5 | 2.5 | U | |
| 71-55-6 | 1,1,1-Trichloroethane | 5 | 2.5 | U | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 5 | 2.5 | U | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 5 | 2.5 | U | |
| 79-00-5 | 1,1,2-Trichloroethane | 5 | 2.5 | U | |
| 75-34-3 | 1,1-Dichloroethane | 5 | 2.5 | U | |
| 75-35-4 | 1,1-Dichloroethylene | 5 | 2.5 | U | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 5 | 10 | U | |
| 96-18-4 | 1,2,3-Trichloropropane | 5 | 2.5 | U | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 5 | 2.5 | U | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 5 | 2.5 | U | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 5 | 10 | U | |
| 106-93-4 | 1,2-Dibromoethane | 5 | 2.5 | U | |
| 95-50-1 | 1,2-Dichlorobenzene | 5 | 2.5 | U | |
| 107-06-2 | 1,2-Dichloroethane | 5 | 2.5 | U | |
| 78-87-5 | 1,2-Dichloropropane | 5 | 2.5 | U | |
| 108-67-8 | 1,3,5-Trimethylbenzene | 5 | 2.5 | U | |
| 541-73-1 | 1,3-Dichlorobenzene | 5 | 2.5 | U | |
| 106-46-7 | 1,4-Dichlorobenzene | 5 | 2.5 | U | |
| 123-91-1 | 1,4-Dioxane | 5 | 200 | U | R |
| 78-93-3 | 2-Butanone | 5 | 10 | U | |
| 591-78-6 | 2-Hexanone | 5 | 2.5 | U | UJ |
| 108-10-1 | 4-Methyl-2-pentanone | 5 | 2.5 | U | UJ |
| 67-64-1 | Acetone | 5 | 10 | U | UJ |
| 107-02-8 | Acrolein | 5 | 10 | U | UJ |
| 107-13-1 | Acrylonitrile | 5 | 2.5 | U | |
| 71-43-2 | Benzene | 5 | 52 | D | |
| 74-97-5 | Bromochloromethane | 5 | 2.5 | U | |
| 75-27-4 | Bromodichloromethane | 5 | 2.5 | U | |
| 75-25-2 | Bromoform | 5 | 2.5 | U | |
| 74-83-9 | Bromomethane | 5 | 2.5 | U | UJ |
| 75-15-0 | Carbon disulfide | 5 | 2.5 | U | |
| 56-23-5 | Carbon tetrachloride | 5 | 2.5 | U | |
| 108-90-7 | Chlorobenzene | 5 | 2.5 | U | |
| 75-00-3 | Chloroethane | 5 | 2.5 | U | |
| 67-66-3 | Chloroform | 5 | 2.5 | U | |
| 74-87-3 | Chloromethane | 5 | 2.5 | U | |
| 156-59-2 | cis-1,2-Dichloroethylene | 5 | 2.5 | U | |
| 10061-01-5 | cis-1,3-Dichloropropylene | 5 | 2.5 | U | |
| 110-82-7 | Cyclohexane | 5 | 2.5 | U | |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**MW-27S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-02 | File ID: | V816036.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/31/19 07:30 | Analyzed: | 12/31/19 12:58 |
| Solids: | | Preparation: | EPA 5030B | Initial/Final: | 25 mL / 25 mL |
| Batch: | BL91544 | Sequence: | Y9L3129 | Calibration: | YL90030 |
| Instrument: | VOA No. 8 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | 5 | 2.5 | U | |
| 74-95-3 | Dibromomethane | 5 | 2.5 | U | |
| 75-71-8 | Dichlorodifluoromethane | 5 | 2.5 | U | UJ |
| 100-41-4 | Ethyl Benzene | 5 | 10 | D | |
| 87-68-3 | Hexachlorobutadiene | 5 | 2.5 | U | |
| 98-82-8 | Isopropylbenzene | 5 | 2.5 | D | |
| 79-20-9 | Methyl acetate | 5 | 2.5 | U | |
| 1634-04-4 | Methyl tert-butyl ether (MTBE) | 5 | 2.5 | U | |
| 108-87-2 | Methylcyclohexane | 5 | 2.5 | U | |
| 75-09-2 | Methylene chloride | 5 | 10 | U | |
| 104-51-8 | n-Butylbenzene | 5 | 2.5 | U | |
| 103-65-1 | n-Propylbenzene | 5 | 2.5 | U | |
| 95-47-6 | o-Xylene | 5 | 2.5 | U | |
| 179601-23-1 | p- & m- Xylenes | 5 | 5.0 | U | |
| 99-87-6 | p-Isopropyltoluene | 5 | 2.5 | U | |
| 135-98-8 | sec-Butylbenzene | 5 | 2.5 | U | |
| 100-42-5 | Styrene | 5 | 2.5 | U | |
| 75-65-0 | tert-Butyl alcohol (TBA) | 5 | 12 | U | R |
| 98-06-6 | tert-Butylbenzene | 5 | 2.5 | U | |
| 127-18-4 | Tetrachloroethylene | 5 | 2.5 | U | UJ |
| 108-88-3 | Toluene | 5 | 2.5 | U | |
| 156-60-5 | trans-1,2-Dichloroethylene | 5 | 2.5 | U | |
| 10061-02-6 | trans-1,3-Dichloropropylene | 5 | 2.5 | U | |
| 110-57-6 | trans-1,4-dichloro-2-butene | 5 | 2.5 | U | |
| 79-01-6 | Trichloroethylene | 5 | 2.5 | U | |
| 75-69-4 | Trichlorofluoromethane | 5 | 2.5 | U | |
| 75-01-4 | Vinyl Chloride | 5 | 2.5 | U | |
| 1330-20-7 | Xylenes, Total | 5 | 7.5 | U | |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 1,2-Dichloroethane-d4 | 10.0 | 9.34 | 93.4 | 69 - 130 | |
| SURR: Toluene-d8 | 10.0 | 9.67 | 96.7 | 81 - 117 | |
| SURR: p-Bromofluorobenzene | 10.0 | 9.83 | 98.3 | 79 - 122 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: Fluorobenzene | 78101 | 5.801 | 76556 | 5.808 | |
| ISTD: Chlorobenzene-d5 | 264486 | 8.831 | 257225 | 8.827 | |
| ISTD: 1,2-Dichlorobenzene-d4 | 94960 | 11.815 | 88553 | 11.811 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**Field Blank**

Laboratory: York Analytical Laboratories, Inc. SDG: 19L0859

Client: J.C. Broderick Project: 19-44493 Queens Library

Matrix: Water Laboratory ID: 19L0859-03 File ID: V737647.D

Sampled: 12/20/19 00:00 Prepared: 12/24/19 12:30 Analyzed: 12/25/19 14:37

Solids: Preparation: EPA 5030B Initial/Final: 25 mL / 25 mL

Batch: BL91325 Sequence: Y9L2706 Calibration: YJ90021 Instrument: MSVOA7

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | 0.50 | U | |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | 0.50 | U | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | 0.50 | U | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 1 | 0.50 | U | |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | 0.50 | U | |
| 75-34-3 | 1,1-Dichloroethane | 1 | 0.50 | U | |
| 75-35-4 | 1,1-Dichloroethylene | 1 | 0.50 | U | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1 | 0.50 | U | UJ |
| 96-18-4 | 1,2,3-Trichloropropane | 1 | 0.50 | U | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 0.50 | U | UJ |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.50 | U | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1 | 0.50 | U | |
| 106-93-4 | 1,2-Dibromoethane | 1 | 0.50 | U | |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 0.50 | U | |
| 107-06-2 | 1,2-Dichloroethane | 1 | 0.50 | U | |
| 78-87-5 | 1,2-Dichloropropane | 1 | 0.50 | U | UJ |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | 0.50 | U | |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 0.50 | U | |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 0.50 | U | |
| 123-91-1 | 1,4-Dioxane | 1 | 40 | U | R |
| 78-93-3 | 2-Butanone | 1 | 2.0 | U | |
| 591-78-6 | 2-Hexanone | 1 | 0.50 | U | |
| 108-10-1 | 4-Methyl-2-pentanone | 1 | 0.50 | U | |
| 67-64-1 | Acetone | 1 | 2.0 | U | |
| 107-02-8 | Acrolein | 1 | 2.0 | U | UJ |
| 107-13-1 | Acrylonitrile | 1 | 0.50 | U | |
| 71-43-2 | Benzene | 1 | 0.50 | U | |
| 74-97-5 | Bromochloromethane | 1 | 0.50 | U | |
| 75-27-4 | Bromodichloromethane | 1 | 0.50 | U | |
| 75-25-2 | Bromoform | 1 | 0.50 | U | |
| 74-83-9 | Bromomethane | 1 | 0.50 | U | UJ |
| 75-15-0 | Carbon disulfide | 1 | 0.50 | U | UJ |
| 56-23-5 | Carbon tetrachloride | 1 | 0.50 | U | |
| 108-90-7 | Chlorobenzene | 1 | 0.50 | U | |
| 75-00-3 | Chloroethane | 1 | 0.50 | U | |
| 67-66-3 | Chloroform | 1 | 0.50 | U | |
| 74-87-3 | Chloromethane | 1 | 0.50 | U | UJ |
| 156-59-2 | cis-1,2-Dichloroethylene | 1 | 0.50 | U | |
| 10061-01-5 | cis-1,3-Dichloropropylene | 1 | 0.50 | U | |
| 110-82-7 | Cyclohexane | 1 | 0.50 | U | UJ |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**Field Blank**

Laboratory: York Analytical Laboratories, Inc. SDG: 19L0859

Client: J.C. Broderick Project: 19-44493 Queens Library

Matrix: Water Laboratory ID: 19L0859-03 File ID: V737647.D

Sampled: 12/20/19 00:00 Prepared: 12/24/19 12:30 Analyzed: 12/25/19 14:37

Solids: Preparation: EPA 5030B Initial/Final: 25 mL / 25 mL

Batch: BL91325 Sequence: Y9L2706 Calibration: YJ90021 Instrument: MSVOA7

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | 1 | 0.50 | U | |
| 74-95-3 | Dibromomethane | 1 | 0.50 | U | |
| 75-71-8 | Dichlorodifluoromethane | 1 | 0.50 | U | |
| 100-41-4 | Ethyl Benzene | 1 | 0.50 | U | |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.50 | U | |
| 98-82-8 | Isopropylbenzene | 1 | 0.50 | U | |
| 79-20-9 | Methyl acetate | 1 | 0.50 | U | UJ |
| 1634-04-4 | Methyl tert-butyl ether (MTBE) | 1 | 0.50 | U | |
| 108-87-2 | Methylcyclohexane | 1 | 0.50 | U | UJ |
| 75-09-2 | Methylene chloride | 1 | 5.0 | | |
| 104-51-8 | n-Butylbenzene | 1 | 0.50 | U | |
| 103-65-1 | n-Propylbenzene | 1 | 0.50 | U | |
| 95-47-6 | o-Xylene | 1 | 0.50 | U | |
| 179601-23-1 | p- & m- Xylenes | 1 | 1.0 | U | |
| 99-87-6 | p-Isopropyltoluene | 1 | 0.50 | U | |
| 135-98-8 | sec-Butylbenzene | 1 | 0.50 | U | |
| 100-42-5 | Styrene | 1 | 0.50 | U | |
| 75-65-0 | tert-Butyl alcohol (TBA) | 1 | 2.5 | U | |
| 98-06-6 | tert-Butylbenzene | 1 | 0.50 | U | |
| 127-18-4 | Tetrachloroethylene | 1 | 0.50 | U | UJ |
| 108-88-3 | Toluene | 1 | 0.50 | U | |
| 156-60-5 | trans-1,2-Dichloroethylene | 1 | 0.50 | U | |
| 10061-02-6 | trans-1,3-Dichloropropylene | 1 | 0.50 | U | |
| 110-57-6 | trans-1,4-dichloro-2-butene | 1 | 0.50 | U | |
| 79-01-6 | Trichloroethylene | 1 | 0.50 | U | |
| 75-69-4 | Trichlorofluoromethane | 1 | 0.50 | U | |
| 75-01-4 | Vinyl Chloride | 1 | 0.50 | U | |
| 1330-20-7 | Xylenes, Total | 1 | 1.5 | U | |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 1,2-Dichloroethane-d4 | 10.0 | 10.0 | 100 | 69 - 130 | |
| SURR: Toluene-d8 | 10.0 | 9.75 | 97.5 | 81 - 117 | |
| SURR: p-Bromofluorobenzene | 10.0 | 10.8 | 108 | 79 - 122 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: Fluorobenzene | 43353 | 5.825 | 53043 | 5.823 | |
| ISTD: Chlorobenzene-d5 | 216377 | 8.855 | 256028 | 8.855 | |
| ISTD: 1,2-Dichlorobenzene-d4 | 69650 | 11.841 | 102086 | 11.843 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**Trip Blank**

Laboratory: York Analytical Laboratories, Inc. SDG: 19L0859

Client: J.C. Broderick Project: 19-44493 Queens Library

Matrix: Water Laboratory ID: 19L0859-04 File ID: V737648.D

Sampled: 12/20/19 00:00 Prepared: 12/24/19 12:30 Analyzed: 12/25/19 15:07

Solids: Preparation: EPA 5030B Initial/Final: 25 mL / 25 mL

Batch: BL91325 Sequence: Y9L2706 Calibration: YJ90021 Instrument: MSVOA7

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | 0.50 | U | |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | 0.50 | U | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | 0.50 | U | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 1 | 0.50 | U | |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | 0.50 | U | |
| 75-34-3 | 1,1-Dichloroethane | 1 | 0.50 | U | |
| 75-35-4 | 1,1-Dichloroethylene | 1 | 0.50 | U | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1 | 0.50 | U | UJ |
| 96-18-4 | 1,2,3-Trichloropropane | 1 | 0.50 | U | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 0.50 | U | UJ |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.50 | U | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 1 | 0.50 | U | |
| 106-93-4 | 1,2-Dibromoethane | 1 | 0.50 | U | |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 0.50 | U | |
| 107-06-2 | 1,2-Dichloroethane | 1 | 0.50 | U | |
| 78-87-5 | 1,2-Dichloropropane | 1 | 0.50 | U | UJ |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | 0.50 | U | |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 0.50 | U | |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 0.50 | U | |
| 123-91-1 | 1,4-Dioxane | 1 | 40 | U | R |
| 78-93-3 | 2-Butanone | 1 | 2.0 | U | |
| 591-78-6 | 2-Hexanone | 1 | 0.50 | U | |
| 108-10-1 | 4-Methyl-2-pentanone | 1 | 0.50 | U | |
| 67-64-1 | Acetone | 1 | 3.7 | | |
| 107-02-8 | Acrolein | 1 | 2.0 | U | UJ |
| 107-13-1 | Acrylonitrile | 1 | 0.50 | U | |
| 71-43-2 | Benzene | 1 | 0.50 | U | |
| 74-97-5 | Bromochloromethane | 1 | 0.50 | U | |
| 75-27-4 | Bromodichloromethane | 1 | 0.50 | U | |
| 75-25-2 | Bromoform | 1 | 0.50 | U | |
| 74-83-9 | Bromomethane | 1 | 0.50 | U | UJ |
| 75-15-0 | Carbon disulfide | 1 | 0.50 | U | UJ |
| 56-23-5 | Carbon tetrachloride | 1 | 0.50 | U | |
| 108-90-7 | Chlorobenzene | 1 | 0.50 | U | |
| 75-00-3 | Chloroethane | 1 | 0.50 | U | |
| 67-66-3 | Chloroform | 1 | 0.50 | U | |
| 74-87-3 | Chloromethane | 1 | 0.50 | U | UJ |
| 156-59-2 | cis-1,2-Dichloroethylene | 1 | 0.50 | U | |
| 10061-01-5 | cis-1,3-Dichloropropylene | 1 | 0.50 | U | |
| 110-82-7 | Cyclohexane | 1 | 0.50 | U | |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8260C**

**Trip Blank**

Laboratory: York Analytical Laboratories, Inc. SDG: 19L0859

Client: J.C. Broderick Project: 19-44493 Queens Library

Matrix: Water Laboratory ID: 19L0859-04 File ID: V737648.D

Sampled: 12/20/19 00:00 Prepared: 12/24/19 12:30 Analyzed: 12/25/19 15:07

Solids: Preparation: EPA 5030B Initial/Final: 25 mL / 25 mL

Batch: BL91325 Sequence: Y9L2706 Calibration: YJ90021 Instrument: MSVOA7

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | 1 | 0.50 | U | |
| 74-95-3 | Dibromomethane | 1 | 0.50 | U | |
| 75-71-8 | Dichlorodifluoromethane | 1 | 0.50 | U | |
| 100-41-4 | Ethyl Benzene | 1 | 0.50 | U | |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.50 | U | |
| 98-82-8 | Isopropylbenzene | 1 | 0.50 | U | |
| 79-20-9 | Methyl acetate | 1 | 0.50 | U | UJ |
| 1634-04-4 | Methyl tert-butyl ether (MTBE) | 1 | 0.50 | U | |
| 108-87-2 | Methylcyclohexane | 1 | 0.50 | U | UJ |
| 75-09-2 | Methylene chloride | 1 | 2.0 | U | |
| 104-51-8 | n-Butylbenzene | 1 | 0.50 | U | |
| 103-65-1 | n-Propylbenzene | 1 | 0.50 | U | |
| 95-47-6 | o-Xylene | 1 | 0.50 | U | |
| 179601-23-1 | p- & m- Xylenes | 1 | 0.53 | J | |
| 99-87-6 | p-Isopropyltoluene | 1 | 0.50 | U | |
| 135-98-8 | sec-Butylbenzene | 1 | 0.50 | U | |
| 100-42-5 | Styrene | 1 | 0.50 | U | |
| 75-65-0 | tert-Butyl alcohol (TBA) | 1 | 2.5 | U | |
| 98-06-6 | tert-Butylbenzene | 1 | 0.50 | U | |
| 127-18-4 | Tetrachloroethylene | 1 | 0.50 | U | UJ |
| 108-88-3 | Toluene | 1 | 0.50 | U | |
| 156-60-5 | trans-1,2-Dichloroethylene | 1 | 0.50 | U | |
| 10061-02-6 | trans-1,3-Dichloropropylene | 1 | 0.50 | U | |
| 110-57-6 | trans-1,4-dichloro-2-butene | 1 | 0.50 | U | |
| 79-01-6 | Trichloroethylene | 1 | 0.50 | U | |
| 75-69-4 | Trichlorofluoromethane | 1 | 0.50 | U | |
| 75-01-4 | Vinyl Chloride | 1 | 0.50 | U | |
| 1330-20-7 | Xylenes, Total | 1 | 1.5 | U | |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 1,2-Dichloroethane-d4 | 10.0 | 9.38 | 93.8 | 69 - 130 | |
| SURR: Toluene-d8 | 10.0 | 9.94 | 99.4 | 81 - 117 | |
| SURR: p-Bromofluorobenzene | 10.0 | 10.8 | 108 | 79 - 122 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: Fluorobenzene | 46086 | 5.822 | 53043 | 5.823 | |
| ISTD: Chlorobenzene-d5 | 217373 | 8.855 | 256028 | 8.855 | |
| ISTD: 1,2-Dichlorobenzene-d4 | 70512 | 11.846 | 102086 | 11.843 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D**

**MW-26S**

Laboratory: York Analytical Laboratories, Inc. SDG: 19L0859

Client: J.C. Broderick Project: 19-44493 Queens Library

Matrix: Water Laboratory ID: 19L0859-01 File ID: SV628153.D

Sampled: 12/20/19 00:00 Prepared: 12/26/19 13:55 Analyzed: 12/27/19 12:21

Solids: Preparation: EPA 3510C Initial/Final: 975 mL / 1 mL

Batch: BL91416 Sequence: Y9L2715 Calibration: YL90003 Instrument: BNA#6

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 1 | 5.13 | U | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 5.13 | U | |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 5.13 | U | |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | 1 | 5.13 | U | |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 5.13 | U | |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 5.13 | U | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 1 | 5.13 | U | |
| 95-95-4 | 2,4,5-Trichlorophenol | 1 | 5.13 | U | |
| 88-06-2 | 2,4,6-Trichlorophenol | 1 | 5.13 | U | |
| 120-83-2 | 2,4-Dichlorophenol | 1 | 5.13 | U | |
| 51-28-5 | 2,4-Dinitrophenol | 1 | 5.13 | U | UJ |
| 121-14-2 | 2,4-Dinitrotoluene | 1 | 5.13 | U | |
| 606-20-2 | 2,6-Dinitrotoluene | 1 | 5.13 | U | |
| 91-58-7 | 2-Chloronaphthalene | 1 | 5.13 | U | |
| 95-57-8 | 2-Chlorophenol | 1 | 5.13 | U | |
| 88-74-4 | 2-Nitroaniline | 1 | 5.13 | U | |
| 88-75-5 | 2-Nitrophenol | 1 | 5.13 | U | |
| 91-94-1 | 3,3-Dichlorobenzidine | 1 | 5.13 | U | |
| 99-09-2 | 3-Nitroaniline | 1 | 5.13 | U | |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1 | 5.13 | U | UJ |
| 101-55-3 | 4-Bromophenyl phenyl ether | 1 | 5.13 | U | |
| 59-50-7 | 4-Chloro-3-methylphenol | 1 | 5.13 | U | |
| 106-47-8 | 4-Chloroaniline | 1 | 5.13 | U | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 1 | 5.13 | U | |
| 100-01-6 | 4-Nitroaniline | 1 | 5.13 | U | |
| 100-02-7 | 4-Nitrophenol | 1 | 5.13 | U | |
| 208-96-8 | Acenaphthylene | 1 | 12.8 | | |
| 98-86-2 | Acetophenone | 1 | 5.13 | U | |
| 98-55-5 | Alpha Terpineol | 1 | 10.3 | U | |
| 62-53-3 | Aniline | 1 | 39.1 | | J |
| 120-12-7 | Anthracene | 1 | 16.6 | | |
| 1912-24-9 | Atrazine | 1 | 5.13 | U | |
| 100-52-7 | Benzaldehyde | 1 | 5.13 | U | UJ |
| 92-87-5 | Benzidine | 1 | 5.13 | U | UJ |
| 56-55-3 | Benzo(a)anthracene | 1 | 5.13 | U | |
| 50-32-8 | Benzo(a)pyrene | 1 | 5.13 | U | |
| 205-99-2 | Benzo(b)fluoranthene | 1 | 5.13 | U | |
| 191-24-2 | Benzo(g,h,i)perylene | 1 | 5.13 | U | |
| 207-08-9 | Benzo(k)fluoranthene | 1 | 5.13 | U | |
| 65-85-0 | Benzoic acid | 1 | 51.3 | U | R |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D**

**MW-26S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-01 | File ID: | SV628153.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/27/19 12:21 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |
| Batch: | BL91416 | Sequence: | Y9L2715 | Calibration: | YL90003 |
| Instrument: | BNA#6 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q |
|---|---|---|---|---|
| 100-51-6 | Benzyl alcohol | 1 | 5.13 | U |
| 85-68-7 | Benzyl butyl phthalate | 1 | 5.13 | U |
| 111-91-1 | Bis(2-chloroethoxy)methane | 1 | 5.13 | U |
| 111-44-4 | Bis(2-chloroethyl)ether | 1 | 5.13 | U |
| 108-60-1 | Bis(2-chloroisopropyl)ether | 1 | 5.13 | U |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 1 | 5.13 | U |
| 105-60-2 | Caprolactam | 1 | 5.13 | U |
| 218-01-9 | Chrysene | 1 | 5.13 | U |
| 53-70-3 | Dibenzo(a,h)anthracene | 1 | 5.13 | U |
| 84-66-2 | Diethyl phthalate | 1 | 5.13 | U |
| 131-11-3 | Dimethyl phthalate | 1 | 5.13 | U |
| 84-74-2 | Di-n-butyl phthalate | 1 | 5.13 | U |
| 117-84-0 | Di-n-octyl phthalate | 1 | 5.13 | U |
| 206-44-0 | Fluoranthene | 1 | 14.1 | |
| 118-74-1 | Hexachlorobenzene | 1 | 5.13 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | 5.13 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 1 | 10.3 | U |
| 67-72-1 | Hexachloroethane | 1 | 2.56 | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 1 | 5.13 | U |
| 78-59-1 | Isophorone | 1 | 5.13 | U |
| 98-95-3 | Nitrobenzene | 1 | 5.13 | U |
| 62-75-9 | N-Nitrosodimethylamine | 1 | 5.13 | U |
| 621-64-7 | N-nitroso-di-n-propylamine | 1 | 5.13 | U |
| 86-30-6 | N-Nitrosodiphenylamine | 1 | 5.13 | U |
| 87-86-5 | Pentachlorophenol | 1 | 5.13 | U |
| 108-95-2 | Phenol | 1 | 27.2 | |
| 129-00-0 | Pyrene | 1 | 8.36 | |

UJ

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 2-Fluorophenol | 51.3 | 31.7 | 61.9 | 19.7 - 63.1 | |
| SURR: Phenol-d5 | 51.3 | 8.88 | 17.3 | 10.1 - 41.7 | |
| SURR: Nitrobenzene-d5 | 25.6 | 23.2 | 90.4 | 50.2 - 113 | |
| SURR: 2-Fluorobiphenyl | 25.6 | 18.1 | 70.7 | 39.9 - 105 | |
| SURR: 2,4,6-Tribromophenol | 51.3 | 60.2 | 117 | 39.3 - 151 | |
| SURR: Terphenyl-d14 | 25.6 | 17.6 | 68.8 | 30.7 - 106 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: 1,4-Dichlorobenzene-d4 | 900653 | 4.88 | 826223 | 4.87 | |
| ISTD: Naphthalene-d8 | 3004322 | 5.84 | 3591473 | 5.81 | |
| ISTD: Acenaphthene-d10 | 2408749 | 7.33 | 2128089 | 7.32 | |
| ISTD: Phenanthrene-d10 | 4714277 | 9.3 | 4330575 | 9.29 | |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D**

**MW-26S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-01 | File ID: | SV628153.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/27/19 12:21 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |
| Batch: | BL91416 | Sequence: | Y9L2715 | Calibration: | YL90003 |
| Instrument: | BNA#6 | | | | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: Chrysene-d12 | 5624707 | 14.71 | 4514377 | 14.69 | |
| ISTD: Perylene-d12 | 6849548 | 17.82 | 5918169 | 17.8 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D**

**MW-26S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-01RE2 | File ID: | SV628178.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/30/19 12:42 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |
| Batch: | BL91416 | Sequence: | Y9L3025 | Calibration: | YL90003 |
| Instrument: | BNA#6 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q |
|---|---|---|---|---|
| 91-20-3 | Naphthalene | 500 | 9820 | D |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 2-Fluorophenol | 51.3 | 0.00 | | 19.7 - 63.1 | D |
| SURR: Phenol-d5 | 51.3 | 0.00 | | 10.1 - 41.7 | D |
| SURR: Nitrobenzene-d5 | 25.6 | 0.00 | | 50.2 - 113 | D |
| SURR: 2-Fluorobiphenyl | 25.6 | 0.00 | | 39.9 - 105 | D |
| SURR: 2,4,6-Tribromophenol | 51.3 | 0.00 | | 39.3 - 151 | D |
| SURR: Terphenyl-d14 | 25.6 | 15.4 | 60.0 | 30.7 - 106 | D |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: 1,4-Dichlorobenzene-d4 | 805749 | 4.88 | 818054 | 4.88 | |
| ISTD: Naphthalene-d8 | 3174076 | 5.82 | 3422400 | 5.82 | |
| ISTD: Acenaphthene-d10 | 1929471 | 7.34 | 2018332 | 7.33 | |
| ISTD: Phenanthrene-d10 | 3789179 | 9.3 | 4015979 | 9.3 | |
| ISTD: Chrysene-d12 | 3740948 | 14.7 | 4178261 | 14.7 | |
| ISTD: Perylene-d12 | 4500623 | 17.81 | 5418556 | 17.81 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D**

**MW-27S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-02 | File ID: | SV628154.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/27/19 12:53 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |
| Batch: | BL91416 | Sequence: | Y9L2715 | Calibration: | YL90003 |
| Instrument: | BNA#6 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q | |
|---|---|---|---|---|---|
| 92-52-4 | 1,1-Biphenyl | 1 | 5.13 | U | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 1 | 5.13 | U | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | 5.13 | U | |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | 5.13 | U | |
| 122-66-7 | 1,2-Diphenylhydrazine (as Azobenzene) | 1 | 5.13 | U | |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | 5.13 | U | |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | 5.13 | U | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 1 | 5.13 | U | |
| 95-95-4 | 2,4,5-Trichlorophenol | 1 | 5.13 | U | |
| 88-06-2 | 2,4,6-Trichlorophenol | 1 | 5.13 | U | |
| 120-83-2 | 2,4-Dichlorophenol | 1 | 5.13 | U | |
| 105-67-9 | 2,4-Dimethylphenol | 1 | 5.13 | U | |
| 51-28-5 | 2,4-Dinitrophenol | 1 | 5.13 | U | UJ |
| 121-14-2 | 2,4-Dinitrotoluene | 1 | 5.13 | U | |
| 606-20-2 | 2,6-Dinitrotoluene | 1 | 5.13 | U | |
| 91-58-7 | 2-Chloronaphthalene | 1 | 5.13 | U | |
| 95-57-8 | 2-Chlorophenol | 1 | 5.13 | U | |
| 91-57-6 | 2-Methylnaphthalene | 1 | 5.13 | U | |
| 95-48-7 | 2-Methylphenol | 1 | 5.13 | U | |
| 88-74-4 | 2-Nitroaniline | 1 | 5.13 | U | |
| 88-75-5 | 2-Nitrophenol | 1 | 5.13 | U | |
| 65794-96-9 | 3- & 4-Methylphenols | 1 | 5.13 | U | |
| 91-94-1 | 3,3-Dichlorobenzidine | 1 | 5.13 | U | |
| 99-09-2 | 3-Nitroaniline | 1 | 5.13 | U | |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1 | 5.13 | U | UJ |
| 101-55-3 | 4-Bromophenyl phenyl ether | 1 | 5.13 | U | |
| 59-50-7 | 4-Chloro-3-methylphenol | 1 | 5.13 | U | |
| 106-47-8 | 4-Chloroaniline | 1 | 5.13 | U | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | 1 | 5.13 | U | |
| 100-01-6 | 4-Nitroaniline | 1 | 5.13 | U | |
| 100-02-7 | 4-Nitrophenol | 1 | 5.13 | U | |
| 98-86-2 | Acetophenone | 1 | 5.13 | U | |
| 98-55-5 | Alpha Terpineol | 1 | 10.3 | U | |
| 62-53-3 | Aniline | 1 | 5.13 | U | UJ |
| 100-52-7 | Benzaldehyde | 1 | 5.13 | U | UJ |
| 92-87-5 | Benzidine | 1 | 5.13 | U | UJ |
| 65-85-0 | Benzoic acid | 1 | 5.13 | U | R |
| 100-51-6 | Benzyl alcohol | 1 | 5.13 | U | |
| 85-68-7 | Benzyl butyl phthalate | 1 | 5.13 | U | |
| 111-91-1 | Bis(2-chloroethoxy)methane | 1 | 5.13 | U | |

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D**

**MW-27S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-02 | File ID: | SV628154.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/27/19 12:53 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |

Batch: BL91416 Sequence: Y9L2715 Calibration: YL90003 Instrument: BNA#6

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q |
|---|---|---|---|---|
| 111-44-4 | Bis(2-chloroethyl)ether | 1 | 5.13 | U |
| 108-60-1 | Bis(2-chloroisopropyl)ether | 1 | 5.13 | U |
| 105-60-2 | Caprolactam | 1 | 5.13 | U |
| 86-74-8 | Carbazole | 1 | 4.47 | J |
| 132-64-9 | Dibenzofuran | 1 | 4.33 | J |
| 84-66-2 | Diethyl phthalate | 1 | 5.13 | U |
| 131-11-3 | Dimethyl phthalate | 1 | 5.13 | U |
| 84-74-2 | Di-n-butyl phthalate | 1 | 5.13 | U |
| 117-84-0 | Di-n-octyl phthalate | 1 | 5.13 | U |
| 77-47-4 | Hexachlorocyclopentadiene | 1 | 10.3 | U |
| 78-59-1 | Isophorone | 1 | 5.13 | U |
| 621-64-7 | N-nitroso-di-n-propylamine | 1 | 5.13 | U |
| 86-30-6 | N-Nitrosodiphenylamine | 1 | 5.13 | U |
| 108-95-2 | Phenol | 1 | 5.13 | U |

| SYSTEM MONITORING COMPOUND | ADDED (ug/L) | CONC (ug/L) | % REC | QC LIMITS | Q |
|---|---|---|---|---|---|
| SURR: 2-Fluorophenol | 51.3 | 19.7 | 38.4 | 19.7 - 63.1 | |
| SURR: Phenol-d5 | 51.3 | 11.6 | 22.7 | 10.1 - 41.7 | |
| SURR: Nitrobenzene-d5 | 25.6 | 20.6 | 80.3 | 50.2 - 113 | |
| SURR: 2-Fluorobiphenyl | 25.6 | 19.9 | 77.6 | 39.9 - 105 | |
| SURR: 2,4,6-Tribromophenol | 51.3 | 51.4 | 100 | 39.3 - 151 | |
| SURR: Terphenyl-d14 | 25.6 | 17.7 | 68.9 | 30.7 - 106 | |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: 1,4-Dichlorobenzene-d4 | 952352 | 4.87 | 826223 | 4.87 | |
| ISTD: Naphthalene-d8 | 3827714 | 5.81 | 3591473 | 5.81 | |
| ISTD: Acenaphthene-d10 | 2338896 | 7.33 | 2128089 | 7.32 | |
| ISTD: Phenanthrene-d10 | 4561303 | 9.29 | 4330575 | 9.29 | |
| ISTD: Chrysene-d12 | 5035216 | 14.69 | 4514377 | 14.69 | |
| ISTD: Perylene-d12 | 6548298 | 17.8 | 5918169 | 17.8 | |

* Values outside of QC limits

**FORM I** **ORGANIC ANALYSIS DATA SHEET**

**EPA 8270D SIM**

**MW-27S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-02 | File ID: | SV520256.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/27/19 11:11 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |
| Batch: | BL91416 | Sequence: | Y9L2718 | Calibration: | YI90018 |
| Instrument: | BNA #5 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q |
|---|---|---|---|---|
| 208-96-8 | Acenaphthylene | 1 | 0.667 | |
| 120-12-7 | Anthracene | 1 | 1.37 | |
| 1912-24-9 | Atrazine | 1 | 0.513 | U |
| 56-55-3 | Benzo(a)anthracene | 1 | 0.462 | |
| 50-32-8 | Benzo(a)pyrene | 1 | 0.287 | |
| 205-99-2 | Benzo(b)fluoranthene | 1 | 0.226 | |
| 191-24-2 | Benzo(g,h,i)perylene | 1 | 0.133 | |
| 207-08-9 | Benzo(k)fluoranthene | 1 | 0.195 | |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 1 | 0.513 | U |
| 218-01-9 | Chrysene | 1 | 0.410 | |
| 53-70-3 | Dibenzo(a,h)anthracene | 1 | 0.0513 | |
| 206-44-0 | Fluoranthene | 1 | 2.15 | |
| 86-73-7 | Fluorene | 1 | 3.64 | |
| 118-74-1 | Hexachlorobenzene | 1 | 0.0205 | U |
| 87-68-3 | Hexachlorobutadiene | 1 | 0.513 | U |
| 67-72-1 | Hexachloroethane | 1 | 0.513 | U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 1 | 0.113 | |
| 91-20-3 | Naphthalene | 1 | 3.95 | |
| 98-95-3 | Nitrobenzene | 1 | 0.256 | U |
| 62-75-9 | N-Nitrosodimethylamine | 1 | 0.513 | U |
| 87-86-5 | Pentachlorophenol | 1 | 0.256 | U |
| 85-01-8 | Phenanthrene | 1 | 4.37 | |
| 129-00-0 | Pyrene | 1 | 1.78 | |

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| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: 1,4-Dichlorobenzene-d4 | 3667574 | 7.93 | 6205301 | 7.92 | |
| ISTD: Naphthalene-d8 | 8588293 | 9.53 | 13961060 | 9.53 | |
| ISTD: Acenaphthene-d10 | 5393033 | 11.95 | 7890427 | 11.94 | |
| ISTD: Phenanthrene-d10 | 10365080 | 14.04 | 14193320 | 14.03 | |
| ISTD: Chrysene-d12 | 9291916 | 17.84 | 11532830 | 17.82 | |
| ISTD: Perylene-d12 | 10449450 | 19.76 | 13205230 | 19.74 | |

* Values outside of QC limits

**FORM I**

# ORGANIC ANALYSIS DATA SHEET

## EPA 8270D SIM

**MW-27S**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | York Analytical Laboratories, Inc. | | | SDG: | 19L0859 |
| Client: | J.C. Broderick | | | Project: | 19-44493 Queens Library |
| Matrix: | Water | Laboratory ID: | 19L0859-02RE1 | File ID: | SV520261.D |
| Sampled: | 12/20/19 00:00 | Prepared: | 12/26/19 13:55 | Analyzed: | 12/27/19 14:30 |
| Solids: | | Preparation: | EPA 3510C | Initial/Final: | 975 mL / 1 mL |
| Batch: | BL91416 | Sequence: | Y9L2718 | Calibration: | YI90018 |
| Instrument: | BNA #5 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. (ug/L) | Q |
|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 2 | 7.51 | D |

| INTERNAL STANDARD | AREA | RT | REF AREA | REF RT | Q |
|---|---|---|---|---|---|
| ISTD: 1,4-Dichlorobenzene-d4 | 4065619 | 7.92 | 6205301 | 7.92 | |
| ISTD: Naphthalene-d8 | 9178957 | 9.53 | 13961060 | 9.53 | |
| ISTD: Acenaphthene-d10 | 5299772 | 11.94 | 7890427 | 11.94 | |
| ISTD: Phenanthrene-d10 | 9974933 | 14.03 | 14193320 | 14.03 | |
| ISTD: Chrysene-d12 | 8475719 | 17.83 | 11532830 | 17.82 | |
| ISTD: Perylene-d12 | 9414902 | 19.75 | 13205230 | 19.74 | |

* Values outside of QC limits

# APPENDIX C

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

# Field Chain-of-Custody Record

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

YORK Project No. 19L0859



| YOUR Information | Report To: | Invoice To: | YOUR Project Number | Turn-Around Time |
|---|---|---|---|---|
| Company: J.C. BROADRICK & ASSOCIATES, INC. | Company: JCB | Company: JCB | 19-44493 | RUSH - Next Day |
| Address: 1775 EXPRESSWAY DR. N HAUPPAUGE, NY 11788 | Address: | Address: | YOUR Project Name: QUEENS LIBRARY | RUSH - Two Day |
| Phone: 631-584-5492 | Phone: | Phone: | | RUSH - Three Day |
| Contact: S. MULLER | Contact: | Contact: | | RUSH - Four Day |
| E-mail: SMULLER@JCBROADRICK.COM | E-mail: | E-mail: | YOUR PO#: | Standard (5-7 Day) X |

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

Samples Collected by: (print your name above and sign below)
STEVEN MULLER

| Matrix Codes | Samples From | Report / EDD Type (circle selections) | | | YORK Reg. Comp. |
|---|---|---|---|---|---|
| S - soil / solid | New York X | Summary Report | CT RCP | Standard Excel EDD | Compared to the following Regulation(s): (please fill in) |
| GW - groundwater | New Jersey | QA Report | CT RCP DQA/DUE | EQuIS (Standard) | |
| DW - drinking water | Connecticut | NY ASP A Package | NJDEP Reduced Deliverables | NYSDEC EQuIS (circled) | |
| WW - wastewater | Pennsylvania | NY ASP B Package (circled) | | NJDEP SRP HazSite | |
| O - Oil ⋮ Other | Other | | NJDKQP | Other: | |

| Sample Identification | Sample Matrix | Date/Time Sampled | Analysis Requested | Container Description |
|---|---|---|---|---|
| MW-26S | GW | 12/20/19 | TCL VOC, TCL SVOC, TPHC DRO, | 4-HCL VOAs |
| | | | TPHC GRO, TOTAL IRON, ALKALINITY | 3-1 AMB, 2-250 |
| | | | SULFATE | 1-HNO3 250 |
| MW-27S | GW | 12/20/19 | " " " " | " " |
| | | | | |
| FIELD BLANK | | | TCL VOC | 2-HCL VOAs |
| TRIP BLANK | | | TCL VOC | 2-HCL VOAs |
| | | | | |
| | | | | |
| | | | | |

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**Comments:**

**Preservation:** (check all that apply)
HCl X MeOH ___ HNO3 X H2SO4 ___ NaOH X ZnAc ___
Ascorbic Acid ___ Other: 1615, 1

**Special Instruction**
Field Filtered ___
Lab to Filter ___

| Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time | Samples Relinquished by / Company | Date/Time |
|---|---|---|---|---|---|
| JCB | 12/20/19 10:30 | York | 12-23-19 10:30 | York | 12-23-19 10:30 |
| Samples Received by / Company | Date/Time | Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time |
| York | 12/23/19 1630 | York | 12/23/19 1838 | VINNI / YORK | 12-23-19 18:38 |
| Samples Relinquished by / Company | Date/Time | Samples Received by / Company | Date/Time | Samples Received in LAB by | Date/Time / Temp. Received at Lab |
| VINNI / YORK | 12-23-19 2020 M-P ~~18:15~~ | | | TC | 12/23/19 2021 / 4.8 Degrees C |