

**TPA PARCEL B10 – COKE OVEN AREA
ANNUAL INTERIM MEASURES PROGRESS REPORT
2022**

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EXECUTIVE SUMMARY

The 2022 Coke Oven Area (COA) Interim Measures Progress Report has been prepared by ARM Group LLC (ARM) on behalf of Tradepoint Atlantic (TPA) and presents operational information for the groundwater remediation systems installed as interim measures (IMs) and a review of laboratory analytical data for groundwater samples collected from monitoring wells associated with the respective remediation systems through 2022. The COA is otherwise identified as TPA Parcel B10 and is composed of six sub-parcels or "cells", described below.

CELL 1

Cell 1 IMs include the use of an air sparging/soil vapor extraction (AS/SVE) system to address shallow zone groundwater impacts in the Former Benzol Processing Area. The AS/SVE system operated just under 90% runtime during 2022. Approximately 92.3 pounds of Volatile Organic Compounds (VOCs) were removed in 2022, compared to approximately 318 pounds of VOCs removed in 2021.

CELL 2

Cell 2 is located in the former Coal Basin Area, and IMs include the use of an AS/SVE system designed to address very shallow groundwater impacts and a groundwater pump and treat (GWPT) system designed for hydraulic control and removal of VOCs within the intermediate groundwater zone. The AS/SVE system ceased operation in early 2019 when groundwater elevations rose. The GWPT system operated through early June 2022 (with approximately 52% runtime during the first half 2022) and removed approximately 1,807 pounds of VOCs. The system objectives and overall effectiveness were being evaluated in June 2022 when the CatOx unit experienced significant system failure. Repairs, upgrades, and alternate remedies are currently being evaluated. The effectiveness of this system and how it relates to the existing groundwater dewatering system at the Graving Dock in providing hydraulic control of the VOC plume in the vicinity of Cell 2 is under review. The TPA Graving Dock is located within 550 feet north of Cell 2. The Graving Dock includes a groundwater dewatering operation that maintains hydraulic control of the intermediate groundwater zone at the Graving Dock and influences the Cell 2 area (i.e., redundant groundwater recovery operations). The Graving Dock wastewater treatment system includes the use of an air stripper with discharges monitored in accordance with TPA Shipyard's National Pollution Discharge Elimination System (NPDES) Permit MD0001180. A request to discontinue IMs via the Cell 2 GWPT system was submitted to the Agencies in a *COA Cell 2 Interim Measure Shutdown Request* (Revision 1, October 3, 2023).

CELL 3

Cell 3 is located at the southern edge of the COA and IMs include the operation of an AS/SVE system for removal of VOCs from shallow zone groundwater. The AS/SVE system did not operate during first quarter 2022 due to SVE blower motor failure. A replacement SVE blower was

installed in mid-April 2022, and the system has been operating per design since. Approximately 72.4 pounds of VOCs were removed in 2022, compared to approximately 28.5 pounds of VOCs removed in 2021. Air sparging and soil vapor extraction were focused on the eastern-third of the 600 foot-long AS/SVE line in response to more recent investigations indicating that the eastern-third of the treatment zone contains a majority of site impacts that can be removed by the AS/SVE system.

CELL 4

Cell 4 is located in the Turning Basin of the former COA. The IMs include the use of pneumatic skimmer pumps to recover high-naphthalene, dense non-aqueous phase liquid (DNAPL) from shallow zone groundwater. Approximately 44 gallons (422 pounds) of DNAPL were removed in 2022, compared to approximately 72 gallons (691 pounds) removed in 2021. The DNAPL recovery pumps are normally operated during warmer months (i.e., April through November) as historical operations have shown that cooler/cold temperatures cause the highly viscous DNAPL to congeal and clog recovery tubing and hoses.

In September 2022, a pilot test excavation was completed to assess the feasibility of using over-excavation methods to address source area DNAPL in Cell 4. The pilot test excavation activities included the temporary operation of a dewatering system to evaluate groundwater production rates and DNAPL recoverability. A synopsis of the pilot test results was included in the ***DNAPL Excavation Work Plan Area B: Parcel B10 Cell 4***, dated November 10, 2022. The Agency provided comments on the November 2022 Work Plan (November 15, 2022), and a Comment-Response document was returned on December 13, 2022. TPA commenced excavation activities at Cell 4 in late January 2023.

CELL 5

Located approximately 350 feet southeast of Cell 4, the Cell 5 IMs include the use of a dual-phase extraction (DPE) system operating from up to a dozen shallow zone groundwater extraction wells to extract high-naphthalene dissolved-phase impacted groundwater. Because of the caustic groundwater conditions at the site, combined with electrolysis, activated carbon filtration housings (composed of high-steel) have periodically failed due to pitting and corrosion holes. This was the case during the first two months of 2022. A replacement filter housing was procured and installed in early March 2022, and the DPE system has operated continuously since that time. Approximately 179 pounds of VOCs (predominately naphthalene) were removed in 2022, compared to approximately 197 pounds removed in 2021.

CELL 6

Cell 6 is located in the former Benzol Processing Area, approximately 500 feet east of Cell 1 and approximately 1,000 feet southeast of Cell 2. The originally-designed IMs for Cell 6 include the use of a light non-aqueous phase liquid (LNAPL) multi-phase extraction (MPE) system with

CatOx or carbon treatment of off-gases. The Cell 6 MPE system did not operate during 2022 due to electrical issues with the overhead source electric transformer. During this period, manual pumping operations were used to recover substantial LNAPL with the use of a pneumatic skimmer pump in former reinjection well CO173. During August 2022 test pits were excavated at several locations within Cell 6. Manual pumping operations were used to periodically recover LNAPL from two test pits (located in the northwest and southeast portions of Cell 6) with the use of a pneumatic double diaphragm pump. Approximately 1,631 gallons (11,952 pounds) of LNAPL were recovered from both test pits during the second half of 2022. Approximately 1,400 gallons (10,259 pounds) of LNAPL were recovered from CO173 during 2022, compared to approximately 1,467 gallons (10,751 pounds) recovered during 2021. Since mid-2010, approximately 32,976 gallons (241,648 pounds) of LNAPL have been recovered from Cell 6. A work plan proposing using several "hotspot" excavations to remove source-area LNAPL within Cell 6 was submitted to the Agencies in the *COA Cell 6 Hotspot Excavation Work Plan*, dated December 12, 2022, the *COA Cell 6 Pilot Test Work Plan* (July 20, 2023), and associated comment response letters.

CORRECTIVE MEASURES STUDY

Development of final remedies for groundwater impacts in the COA pursuant to the *Coke Point Area Groundwater Corrective Measures Study Work Plan – Revision 1*, dated January 15, 2021, is ongoing. Cell 1, Cell 3, and Cell 5 will continue to operate with no expected alterations or modifications. As noted above, the Cell 2 IM is currently under review, Cell 4 is currently being excavated, and the Cell 6 IMs will continue with manual LNAPL recovery with proposed hotspot excavations to address two residual LNAPL source areas in 2023, pending Agency approval.

The IM remediation systems will continue to operate while the Corrective Measures Study is being conducted to evaluate remedial alternatives and develop a recommended final remedy for groundwater.

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1.0 INTRODUCTION

The 2022 Coke Oven Area (COA) Interim Measures (IMs) Progress Report has been prepared by ARM Group LLC (ARM) on behalf of Tradepoint Atlantic (TPA). The report presents operational information for groundwater remediation systems installed as IMs, and a review of laboratory analytical data for groundwater samples collected from monitoring wells associated with the respective systems through 2022. This report is submitted in accordance with reporting requirements outlined in correspondence received from the United States Environmental Protection Agency on March 26, 2013, November 14 and 16, 2017, and subsequent communications.

1.1. TRADEPOINT ATLANTIC SITE BACKGROUND

The TPA property is located in Baltimore County, Maryland in the southeastern corner of the Baltimore metropolitan area, approximately nine miles from downtown Baltimore City. The location of the property is presented on **Figure 1**. The property encompasses approximately 3,100 acres located on a peninsula situated on the Patapsco River near its confluence with the Chesapeake Bay. From the late 1800s until 2012, the property was used for the production and manufacturing of steel and was the world's largest steel mill by the mid-1900s. Site operations and manufacturing processes included coke, sinter, iron, steel, semi-finished and finished product production and preparation, and raw material handling. In 1970, Sparrows Point was the largest steel facility in the United States, producing hot and cold rolled sheets, coated materials, pipes, plates, and rod and wire. Under TPA revitalization plans, the property is undergoing transformation with demolition/revitalization of former production parcels, and redevelopment of the TPA Sparrows Point Peninsula as a regionally-beneficial, light industrial, warehousing and distribution commerce center.

1.2. COKE OVEN AREA

The IMs of the COA are located within six smaller sub-parcels designated as Cells 1, 2, 3, 4, 5, and 6. The locations of the cells are presented on **Figure 2**. Sitewide groundwater elevation contours for all shallow COA monitoring wells gauged during the second and fourth quarters of 2022 are presented on **Figures 3-1** and **3-2**. For each cell, the IM progress report provides a description of current and former IM efforts, notable operations & maintenance (O&M) activities completed during 2022, discussion of system operational information, and groundwater sample testing results for 2022. Below is a short listing of Cell-specific IMs.

- Cell 1 (former Benzol Processing Area): Air Sparging/Soil Vapor Extraction (AS/SVE) system operated in the shallow groundwater zone (predominantly benzene removal);

- Cell 2 (former Coal Basin Area): Groundwater Pump and Treat (GWPT) system originally designed and operated to intercept intermediate groundwater zone VOC-impacts (currently off);
- Cell 3 (Cove Area): AS/SVE system operated in the shallow groundwater zone (benzene and naphthalene removal);
- Cell 4 (Turning Basin side of former COA): High-naphthalene Dense Non-Aqueous Liquid (DNAPL) recovery system operated in the shallow groundwater zone;
- Cell 5 (Turning Basin side of former COA): Dual Phase Extraction (DPE) system operated in the shallow groundwater zone (high naphthalene recovery); and
- Cell 6 (former Benzol Processing Area): Multi-Phase Extraction (MPE) system originally designed and operated to remove Light Non-Aqueous Phase Liquid (LNAPL) from shallow groundwater (currently off); manual pumping of LNAPL from two test pits (excavated during August 2022), and semi-automated pumping of LNAPL from former reinjection well CO173.

2.0 CELL 1

2.1. DESCRIPTION

Cell 1 IMs include the use of an AS/SVE system to address shallow zone groundwater impacts in the Former Benzol Processing Area. The AS system consists of a rotary vane air compressor delivering compressed air to as many as 25 sparge wells via an above-ground network of HDPE piping. VOCs stripped from the groundwater and emitted into the vadose zone are removed under vacuum via a site-encompassing horizontal SVE trench corral and midline horizontal lateral that are connected to the SVE system's regenerative blower. Extracted soil vapor is processed through carbon filters. **Figure C1-1** presents the layout of the Cell 1 AS/SVE system.

2.2. OPERATIONS

Cell 1 AS/SVE system operational data is summarized in **Table C1-1**. AS/SVE operations are alternated between the northern and southern halves of the wellfield for 30-day and 14-day periods, respectively. The system was operated at just under 90% runtime during 2022. Any downtime was a result of electrical power losses, preventative maintenance, and equipment repairs (i.e., replacement of a variable frequency drive or VFD). The average VOC removal rate was approximately 0.011 pound per hour with quarterly averages ranging from 0.026 (1Q22) to 0.001 (4Q22) pound per hour. The decrease in the hydrocarbon removal rate during each quarter of 2022 is a function of decreasing VOC concentrations in the extracted soil vapor. Based on the system removal data from 2022 and as shown on **Figure C1-2**, the Cell 1 AS/SVE system removed approximately 92.3 pounds of VOCs in 2022, compared to approximately 318 pounds removed in 2021 and approximately 885 pounds removed in 2020, with approximately 16,591 pounds of VOCs removed to date. **Table C1-1** includes a cumulative summary of operational performance since system activation in August 2012.

SVE influent (e.g., pre-treatment) system vapor samples were collected monthly to assess hydrocarbon removal rates. The monthly SVE influent system vapor samples were submitted to Maryland Spectral Services for laboratory analysis of VOCs + Naphthalene per EPA Method 8260. SVE influent sample testing results are presented in **Table C1-2**.

2.3. MONITORING WELL RESULTS

Groundwater samples were collected from two monitoring wells on a quarterly schedule and from a third monitoring well on an annual schedule to monitor dissolved-phase VOC concentrations. **Figure C1-1** presents the monitoring well locations. The monitoring wells sampled are:

- CO93-PZM (former BP-MW-09, upgradient/east of Cell 1, sampled quarterly),

- CO190-MWS (center of northern half of Cell 1, sampled quarterly), and
- CO191-MWS (downgradient/west of Cell 1, sampled annually).

The groundwater samples were submitted to Pace Analytical Services, Inc. or Alpha Analytical for laboratory analysis of Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) + Naphthalene per EPA Method 8260. Groundwater analytical results are presented in **Table C1-3**. A time-series graph of VOC concentrations is included as **Figure C1-3**.

While annual VOC recovery rates have decreased, dissolved-phase VOC concentrations in the local shallow zone groundwater have not changed appreciably since early-2017 (**Figure C1-3**). Cell 1 is hydraulically downgradient from Cell 6; until Cell 6 source material is removed, it is probable that the elevated benzene concentrations observed in Cell 1 will continue. Monitoring well CO190-MWS exhibited a significant drop in benzene concentrations during the third quarter 2022 (to a historic low) but rebounded during the fourth quarter 2022 to concentrations similar to the second quarter 2022. **Figure C1-4** presents CO190-MWS benzene concentrations vs. depth to groundwater; however, there is no obvious correlation. Monitoring well groundwater elevation gauging data for 2022 is summarized in **Table C1-4**.

SVE influent soil vapor sample and groundwater sample laboratory analytical reports are included in **Appendix A**. Monitoring well sampling purge logs are included in **Appendix B**. A chronology of Cell 1 operations during 2022 is included in **Appendix C**. Historical laboratory analytical results for all Cell 1 monitoring wells are included in **Appendix D**.

2.4. SUMMARY AND RECOMMENDATIONS

The Cell 1 AS/SVE system was operated effectively during 2022 and removed approximately 92.3 pounds of VOCs. No major adjustments to the current alternating operations (i.e., north/south) are expected for 2023. Removal of the high-benzene LNAPL from Cell 6 will continue as is discussed later.

3.0 CELL 2

3.1. DESCRIPTION

Cell 2 is located in the former Coal Basin Area, and IMs include the use of an AS/SVE system designed to address very shallow groundwater impacts and a GWPT system designed for hydraulic control and removal of VOCs within the intermediate groundwater zone. The AS/SVE system ceased operation early 2019 when groundwater elevations rose. **Figure C2-1** presents the system layout of Cell 2 including the locations of intermediate zone groundwater extraction wells and shallow zone groundwater reinjection wells, shallow zone AS wells and SVE trench, and groundwater monitoring well locations.

The GWPT system operated through early June 2022 (with approximately 52% runtime during the first half of 2022) and removed approximately 1,807 pounds of VOCs. The effectiveness and necessity of the GWPT system were being evaluated in June 2022 when the system was taken offline for substantial repairs and troubleshooting of the catalytic oxidizer (CatOx) used to treat off-gas emissions from the air stripper. In conjunction with system troubleshooting and evaluation, current conditions were assessed during system downtime. Pumping associated with the Graving Dock heavily influences intermediate groundwater in the vicinity of Cell 2. The influence of Graving Dock pumping extends approximately 600 feet to the southeast and serves a capture and control function. Pore water samples collected from within the coal slip area did not identify elevated concentrations of benzene or naphthalene.

Furthermore, the intermediate groundwater captured by the Graving Dock underdrain groundwater pumping system is then treated and discharged, with all effluent concentrations below the DMR limits associated with the TPA Shipyard's National Pollution Discharge Elimination System (NPDES) Permit MD0001180.

A request to discontinue the Cell 2 GWPT system IM was submitted to the Agencies in the *COA Cell 2 Interim Measure Shutdown Request* (Revision 1, October 3, 2023).

3.1.1. AS/SVE System

The AS/SVE system was designed to address VOC-impacted groundwater in the shallow zone. The system included the use of vertically-constructed AS wells located along a 500-foot wide shallow SVE trench. Historically, extracted soil vapors were treated through a catalytic oxidizer (CatOx) and later through carbon filters. As noted above, since 2019, the SVE trench has been fully submerged by very shallow groundwater and cannot be used to extract soil vapor from the vadose zone under the current site conditions.

3.1.2. GWPT System

The intermediate zone GWPT system includes the following:

- Six 6-inch diameter extraction wells installed approximately 83 feet apart along a 500-foot-long line.
- Each extraction well is screened in the intermediate zone from approximately 35 to 50 feet below ground surface (bgs) with 0.020" slot screen.
- Extraction wells CO46-PZM047 (EW-4) and CO47-PZM046 (EW-5) contain submersible pumps with the pump intakes set approximately 5 to 8 feet above the bottom of each well.
- Six 6-inch diameter reinjection wells are installed between 50 and 65 feet apart along a 260-foot-long line that is located 350 feet hydraulically upgradient from the extraction wells.
- Each reinjection well is screened in the shallow zone from approximately 10 to 20 feet bgs with a 5-foot sediment collection sump from approximately 20 to 25 feet bgs.
- Extracted groundwater (approximately 14 gpm) was batch processed through a low-profile, stacked-tray air stripper operated with a 600 cubic feet per minute (cfm) blower.
- Air stripper off-gas was treated by a 600-cfm capacity CatOx.
- Groundwater processed through the air stripper was discharged to the six reinjection wells by an automated, end-suction, centrifugal pump operating from an equalization/storage tank.

3.2. OPERATIONS

3.2.1. AS/SVE System

The AS/SVE system has been offline since early 2019 and cannot be operated with the shallow groundwater conditions that have prevailed since that time.

3.2.2. GWPT System

The GWPT system was operated through early June 2022 with a 7-week downtime period from late March to early May as a result of failed submersible pumps that have since been replaced. Extraction wells EW-4 and EW-5 contain the highest VOC concentrations of the available extraction wells and were targeted to maximize VOC recovery and limit groundwater production in accordance with air stripper performance capacity. By early June 2022, the CatOx showed severe issues with backpressure. Subsequent diagnosis indicated that the internal catalyst and piping within the CatOx failed and will require complete overhaul or replacement. Cell 2 has been offline and repairs, upgrades, and alternate remedies are being evaluated. The impact of the ongoing groundwater hydraulic influence of the Graving Dock located north of Cell 2 is being evaluated. Before the GWPT system was taken offline it removed approximately 815,510 gallons of dissolved-phase VOC-impacted groundwater primarily from extraction well CO46-PZM047

(EW-4), located in the center of the dissolved-phase plume, resulting in the removal of approximately 1,807 pounds of VOCs in 2022 (**Table C2-1**). The cumulative hydrocarbon mass removed from the subsurface at Cell 2 since GWPT system start-up is presented graphically on **Figure C2-2**.

3.3. MONITORING WELL RESULTS

Groundwater samples were collected from the monitoring wells that are listed below to evaluate dissolved VOC concentrations in the shallow and intermediate groundwater zones underlying Cell 2. Measurable DNAPL was observed at a thickness of 0.19 feet in monitoring well CO37-PZM003 during the first quarter 2022 groundwater sampling event and therefore this well was not sampled. Measurable DNAPL was observed at a thickness of 0.88 feet in monitoring well CO37-PZM003 during the second quarter 2022 sitewide groundwater gauging event. The well was redeveloped on May 4, 2022 and was sampled on June 8, 2022 when only trace DNAPL was observed. Measurable LNAPL was observed at a thickness of 1.45 feet in monitoring well CO37-PZM003 during the third quarter 2022 groundwater sampling event and therefore this well was not sampled. Monitoring well CO37-PZM003 had a sorbent sock deployed in it during the fourth quarter 2022 groundwater sampling event and therefore was not sampled. **Figure C2-1** presents the monitoring well locations in the Cell 2 study area. Monitoring well construction information is summarized in **Table C2-2** and the monitoring well groundwater elevation gauging data for 2022 is summarized in **Table C2-3**. **Figures C2-3** through **C2-6** and **Figures C2-7** through **C2-10** present groundwater elevation contour maps for each quarter of 2022 within the shallow and intermediate groundwater zones, respectively.

Groundwater samples were submitted to Pace Analytical Services, Inc. or Alpha Analytical for laboratory analysis of BTEX + Naphthalene per EPA Method 8260. Groundwater sample testing results are presented in **Table C2-4**. **Figures C2-11** through **C2-14** present quarterly benzene concentrations in the shallow zone groundwater monitoring wells. **Figures C2-15** through **C2-18** present quarterly benzene concentrations in the intermediate zone groundwater monitoring wells. Time-series graphs of VOC concentrations in shallow zone monitoring wells and intermediate zone monitoring wells are presented on **Figure C2-19** and **Figure C2-20**, respectively.

The groundwater flow direction in the shallow zone is towards the west-northwest regardless of the reinjection of Cell 2 treated water into the shallow zone (**Figures C2-3** through **C2-6**). As presented on **Figures C2-7** through **C2-10**, the groundwater flow direction in the intermediate zone is to the north. Note the significant hydraulic gradient (often over 28 feet) between well GD01-MWI located on the Grading Dock property, and the Cell 2 monitoring well network.

As shown on **Figure C2-19**, and listed in the summary table below, VOC concentrations in shallow zone groundwater monitoring well CO42-PZM004 (located crossgradient of the extraction well

network) have decreased by two orders of magnitude. Other wells with decreasing concentrations include CO28-PZM010 and CO36-PZM008. Long-term decreases in concentrations of a half order of magnitude or less are evident in CO27-PZM012, CO37-PZM003, CO38-PZM006 and CO39-PZM007. Increasing trends are noted in CO40-PZM008 and CO41-PZM001. During 2022, groundwater elevations in the shallow zone wells were approximately the same as those observed in 2021.

As presented on **Figure C2-20**, and listed below, VOC concentrations are notably decreasing in intermediate zone monitoring wells CO27-PZM046 and CO38-PZM043, and minor reductions are observed in CO39-PZM042, CO181-MWI and CO182-MWI. All other monitoring wells show mostly stable concentrations over time.

Monitoring Well	VOC Concentration Trend
Shallow Zone	
CO27-PZM012 (center of plume)	Stable since mid-2020 and decreasing over time
CO28-PZM010 (crossgradient)	Three orders of magnitude decrease over time; sampled three times since installation
CO36-PZM008 (crossgradient)	Stable but decreasing since mid-2021
CO37-PZM003 (crossgradient)	Half order of magnitude decrease over time; sampled twice since installation, routinely contained measurable thicknesses of NAPL during 2022
CO38-PZM006 (upgradient)	Half order of magnitude decrease over time; stable since mid-2019
CO39-PZM007 (upgradient)	Concentrations fluctuating but stable since mid-2019 and decreasing over time
CO40-PZM008 (upgradient)	Increasing since mid-2019
CO41-PZM001 (upgradient)	Increasing since early-2021
CO42-PZM004 (upgradient)	Two orders of magnitude decrease over time
CO179-MWS (downgradient)	Concentrations stable; sampled two times since installation
CO180-MWS (crossgradient)	Concentrations fluctuating but stable; sampled four times since installation
CO181-MWS (crossgradient)	Concentrations stable; sampled four times since installation
CO186-MWS (upgradient)	Concentrations decreasing; sampled four times since installation
CO209-MWS (crossgradient)	Concentrations decreasing; sampled three times since installation
Intermediate Zone	
CO27-PZM046 (center of plume)	Order of magnitude decrease; slower reduction since late-2019
CO28-PZM048 (crossgradient)	Concentrations stable; sampled four times since installation
CO36-PZM043 (crossgradient)	Concentrations stable
CO37-PZM038 (crossgradient)	Concentrations stable since late-2017
CO38-PZM043 (upgradient)	Two orders of magnitude decrease over time
CO39-PZM042 (upgradient)	Concentrations fluctuating but decreasing over time
CO41-PZM036 (upgradient)	Concentrations stable

CO180-MWI (crossgradient)	Concentrations stable; sampled four times
CO181-MWI (crossgradient)	Concentrations stable
CO182-MWI (upgradient)	Concentrations decreasing over the last four sampling events
CO209-MWI (crossgradient)	Concentrations stable; sampled three times since installation
GD01-MWI (downgradient)	Concentrations stable; sampled five times since installation
GD02-MWI (downgradient)	Concentrations stable; sampled five times since installation

Groundwater sample laboratory analytical reports are included in **Appendix A**. Monitoring well sampling purge logs are included in **Appendix B**. A chronology of Cell 2 operations during 2022 is included in **Appendix C**. Historical laboratory analytical results for all Cell 2 monitoring wells are included in **Appendix D**.

3.4. SUMMARY AND RECOMMENDATIONS

Cell 2, located in the Former Coal Basin Area, included an AS/SVE system that operated from shallow groundwater zone wells into 2019, and a GWPT system that operated from intermediate groundwater zone wells into mid-2022. Both systems are currently offline.

The Cell 2 extracted/treated groundwater volumes and recovered VOC masses decreased each year from 2019 through June 2022. The submersible pumps were replaced in extraction wells EW-4 and EW-5 in early May 2022, and CatOx failure occurred in June 2022. Coincident with the mid-2022 system downtime, the effectiveness of this system and how it relates to the existing groundwater dewatering system at the Graving Dock in providing hydraulic control of the VOC plume in the vicinity of Cell 2 is currently being evaluated. A request to discontinue IMs via the Cell 2 GWPT system was submitted to the Agencies in a *COA Cell 2 Interim Measure Shutdown Request* (Revision 1, October 3, 2023).

4.0 CELL 3

4.1. DESCRIPTION

The Cell 3 IMs consist of an AS/SVE system to remove dissolved VOCs from groundwater with treatment of the extracted soil vapor by carbon filters. The AS system consists of a rotary vane air compressor that delivers compressed air to fifteen vertical sparge wells via aboveground HDPE piping and individually-valved, swingarm hoses connected to each sparge well. The SVE system consists of a regenerative vacuum blower operating on up to five HDPE pipe risers that connect (tee) to a horizontally buried SVE extraction pipe within a 600-foot-long shallow extraction trench. There are no valves on the subsurface SVE piping to isolate and focus SVE energy on specific or selected sections of the SVE trench. As such, SVE energy can only be proportionally-controlled by operating the aboveground valve on each SVE riser pipe. **Figure C3-1** presents the layout of the Cell 3 AS/SVE system and the locations of the major system components including the AS and SVE wells, the SVE trench, and groundwater monitoring wells. The major AS/SVE system design components are described in the Cell 3 final design report *Coke Oven Area Interim Measures Cell 3 Cove Area Air Sparge/Soil Vapor Extraction System Design* (URS 2011).

Vertical profiling of VOC concentrations in the shallow zone groundwater was conducted during previous investigations and indicated that the majority of the benzene mass beneath Cell 3 is located from approximately 15 to 30 feet bgs and the majority of the naphthalene mass is located from approximately 20 to 40 feet bgs (ARM 2019). The AS wells were proposed to be installed to 30 feet bgs with screened intervals from 28-30 feet bgs in order to target the bottom of the benzene-impacted zone and the middle of the naphthalene-impacted zone. However, the fifteen AS wells were installed to total well depths of between 22.2 and 27.4 feet bgs due to refusal encountered with the hollow stem augers during installation. Therefore, the screened intervals are shallower than proposed and target the middle / bottom of the benzene impacted zone and the shallower portion of the naphthalene-impacted areas. Air sparge well construction information is summarized in **Table C3-1**.

4.2. OPERATIONS

The operational performance of the AS/SVE system during 2022 is summarized in **Table C3-2**. The AS/SVE system was offline during the first 15 weeks of 2022 because of SVE blower failure. After the SVE blower was replaced in April 2022 system operation was mostly uninterrupted through 2022. Any downtime was because of power loss, minor repairs and preventative maintenance. Approximately 72.4 pounds of VOCs were removed during 2022, compared to approximately 28.5 pounds removed during 2021, with approximately 2,302 pounds of VOCs removed to date (**Figure C3-2**).

SVE influent (e.g., pre-treatment) system vapor samples were collected monthly to assess hydrocarbon removal rates. The monthly SVE influent system vapor samples were submitted to Maryland Spectral Services for laboratory analysis of VOCs + Naphthalene per EPA Method 8260. SVE vapor sample testing results are presented in **Table C3-3**.

Based on the system monitoring data and as shown on **Figure C3-2**, AS/SVE system recovery has become asymptotic despite nearly 100% runtime since mid-April 2022. Remediation system performance at Cell 3 is limited by the screen intervals of the existing AS wells (between 22 and 27 feet bgs) being slightly shallower than the proposed screen interval depths (between 28 and 30 feet bgs). Therefore, the AS wells target the middle / bottom of the benzene impacted zone and the shallower portion of the naphthalene-impacted areas. Further, per SVE testing completed in recent years, SVE energy is quickly lost because of the high permeability of the uncapped, earthen surficial soils at the site (e.g., short-circuiting).

4.3. MONITORING WELL RESULTS

Groundwater samples were collected from two monitoring wells on a quarterly schedule, four monitoring wells on a semiannual schedule, and from a seventh monitoring well on an annual schedule to monitor dissolved VOC concentrations. **Figure C3-1** presents the monitoring well locations. Groundwater samples were collected from the following monitoring wells:

- CO30-PZM015 (downgradient),
 - CO30-PZM060 (downgradient),
 - CO194-MWS (upgradient),
 - CO195-MWS (upgradient),
- CO196-MWS (upgradient),
 - CO198-MWS (downgradient), and
 - CO201-MWS (downgradient).

Groundwater samples were submitted to Pace Analytical Services, Inc. or Alpha Analytical for laboratory analysis of BTEX + Naphthalene per EPA Method 8260. Groundwater sample testing results are presented in **Table C3-4**. **Figures C3-3** and **C3-4** present benzene concentrations in the shallow zone groundwater monitoring wells during the second and fourth quarters of 2022, respectively. A time-series graph of VOC concentrations is included as **Figure C3-5**.

Groundwater sample testing indicates that benzene and naphthalene are the two most prevalent VOC constituents in local shallow zone groundwater. Reduction(s) in VOC concentrations are observed in CO194-MWS, CO196-MWS, CO198-MWS and CO30-PZM060. Mostly consistent or fluctuating concentrations were observed in CO30-PZM015, CO195-MWS and CO201-MWS.

SVE influent soil vapor sample and groundwater sample laboratory analytical reports are included in **Appendix A**. Monitoring well sampling purge logs are included in **Appendix B**. A chronology

of Cell 3 operations during 2022 is included in **Appendix C**. Historical laboratory analytical results for all Cell 1 monitoring wells are included in **Appendix D**.

4.4. SUMMARY AND RECOMMENDATIONS

The Cell 3 AS/SVE system removed approximately 72.4 pounds of VOCs in 2022. The Cell 3 AS/SVE system will continue to be operated in 2023.

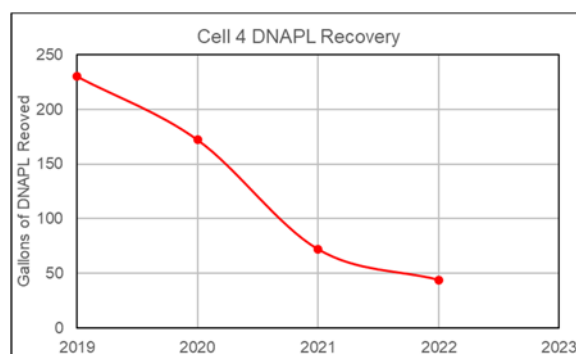
5.0 CELL 4

5.1 DESCRIPTION

The Cell 4 IM consists of a DNAPL recovery system operated in the naphthalene source area upgradient of Cell 5. In the fourth quarter 2015, pneumatic pumps were installed in extraction wells CO123-PZM, CO124-PZM, and CO125-PZM to recover DNAPL from casing/containment sumps below the screened intervals. **Figure C4-1** presents the system layout of Cell 4 including the locations of extraction wells. Well CO169-PZM was originally installed as a DNAPL extraction well, but DNAPL recovery has not been conducted since prior to 2020 due to insufficient DNAPL volume. Extraction well CO123-PZM routinely contains the thickest DNAPL accumulation. The DNAPL recovery pumps are operated during warmer months (i.e., April through November) because of thickening of the DNAPL during cold temperatures that cannot be pumped effectively through the small-diameter recovery tubing. The recovered DNAPL is pumped directly into 55-gallon storage drums staged adjacent to the respective extraction wells. Upon filling, the drums are transported off-site under manifest by a licensed transporter and disposed at a certified disposal facility.

5.2 OPERATIONS

Table C4-1 summarizes the volumes/masses of DNAPL recovered from wells CO123-PZM, CO124-PZM, and CO125-PZM. Approximately 44 gallons (422 pounds) of DNAPL were recovered in 2022, compared to approximately 230 gallons recovered in 2019, approximately 172 gallons recovered in 2020 and approximately 72 gallons recovered in 2021. The decreasing recovery rates, as depicted in the graphic to the right, are directly related to decreasing volumes



of mobile DNAPL that can be recovered by the pumps, and not attributed to operating downtime or efficiencies, which have remained consistent for the past four years.

5.3 SUMMARY AND RECOMMENDATIONS

Cell 4 IMs have included the use of pneumatic skimmer pumps to recover high-naphthalene DNAPL from shallow zone groundwater wells. The DNAPL recovery system recovered approximately 44 gallons of DNAPL in 2022, and recovery rates are reducing. In September 2022, a pilot test excavation was completed in Cell 4 to assess the feasibility of using over-excavation methods to remove source area DNAPL. The pilot test excavation activities included the temporary operation of a dewatering system to evaluate groundwater production rates and DNAPL

recoverability. A synopsis of the pilot test results was included in the ***DNAPL Excavation Work Plan Area B: Parcel B10 Cell 4***, dated November 10, 2022. The Agencies provided comments on the November 2022 Work Plan (November 15, 2022), and a Comment-Response document was returned on December 13, 2022. TPA commenced the Cell 4 DNAPL excavation activities in late January 2023, with anticipated completion in late 2023. The Cell 4 DNAPL Excavation Work Plan included details regarding the planned groundwater sampling network and the reporting frequency; all results will be submitted separate from the Annual COA IM Reports.

6.0 CELL 5

6.1 DESCRIPTION

Located approximately 350 feet southeast of Cell 4, Cell 5 IMs include the use of a DPE system operating from up to a dozen, 1.5-inch diameter by 17 foot-deep, shallow zone groundwater wells to extract high-naphthalene impacted groundwater. Currently, the DPE system uses a high-vacuum, liquid ring pump (LRP) to extract VOC-impacted groundwater from eight of the twelve wells (CO63-PZM007, CO64-PZM006, CO65-PZM005, CO66-PZM005, CO67-PZM006, CO68-PZM005, CO69-PZM005, and CO72-PZM005), with the extracted groundwater treated through a low-profile air stripper and carbon filters. The treated groundwater is discharged into six 6-inch diameter by 15 foot-deep reinjection wells located north of the Cell 4 area. **Figure C5-1** presents the system layout of Cell 5 including the locations of the extraction wells, groundwater reinjection wells, and monitoring wells.

6.2 OPERATIONS

Due to the corrosive effects of the groundwater causing pitting and deterioration one of the carbon filter vessels failed during the fourth quarter of 2021. DPE system operations resumed when the carbon filter vessel was replaced in early-March 2022 with the DPE system operating at nearly 90% uptime since that time (other than downtime caused by normal O&M). The DPE system extracted approximately 3.7 million gallons of groundwater and removed approximately 179 pounds of VOCs. In 2021, approximately 4.3 million gallons were extracted with approximately 197 pounds of VOCs removed (**Table C5-1**). The cumulative hydrocarbon mass removed since system activation is presented graphically on **Figure C5-2**.

6.3 MONITORING WELL RESULTS

Groundwater samples were collected from monitoring wells on a quarterly schedule to evaluate the dissolved VOC concentrations in the shallow zone groundwater. **Figure C5-1** presents the monitoring well locations. Monitoring well construction information is summarized in **Table C5-2** and groundwater elevation gauging data is summarized in **Table C5-3**. **Figures C5-3** through **C5-6** present groundwater elevation contour maps for each quarter of 2022.

Quarterly groundwater samples were submitted to Pace Analytical Services, Inc. or Alpha Analytical for laboratory analysis of BTEX + Naphthalene per EPA Method 8260. Groundwater sample testing results are presented in **Table C5-4**. Naphthalene is the most prevalent VOC in the groundwater underlying Cell 5. **Figures C5-7** through **C5-10** present the naphthalene concentrations in the shallow zone groundwater monitoring wells during each quarter of 2022. A time-series graph of VOC concentrations in groundwater samples collected from monitoring wells

located in the reinjection-area is presented on **Figure C5-11**. A time-series graph of VOC concentrations in groundwater samples collected from monitoring wells located in the Cell 5 IM area is presented on **Figure C5-12**. A time-series graph of VOC concentrations in perimeter monitoring wells is presented on **Figure C5-13**. A summary of VOC concentration trends is presented below.

Monitoring Well	VOC Concentration Trend
CO23-PZM008 (upgradient/reinjection wellfield)	Stable since early 2020
CO24-PZM007 (upgradient/reinjection wellfield)	Spike in late 2019 but concentrations decreasing over time
CO26-PZM007 (downgradient/eastern perimeter)	Concentrations highly variable mid-2019 to early 2021 with minor decrease in concentrations over time
CO55-PZM000 (upgradient)	Concentrations highly variable but decreasing over time
CO56-PZP001 (upgradient)	Concentrations stable with a decrease of a half order of magnitude over time
CO57-PZP002 (crossgradient)	Concentrations stable since 2016
CO58-PZM001 (downgradient/eastern perimeter)	Concentrations decreasing over time
CO59-PZP002 (upgradient)	Concentrations highly variable but decreasing over time
CO60-PZP001 (crossgradient/eastern perimeter)	Concentrations variable but decreasing over time

Groundwater sample laboratory analytical reports are included in **Appendix A**. Monitoring well sampling purge logs are included in **Appendix B**. A chronology of Cell 5 operations during 2022 is included in **Appendix C**. Historical laboratory analytical results for all Cell 5 monitoring wells are included in **Appendix D**

6.4 SUMMARY AND RECOMMENDATIONS

The DPE system operated for approximately 75% of the year and removed approximately 179 pounds of VOCs from the shallow zone groundwater underlying Cell 5. Cell 5 will continue to be operated in 2023. As discussed above, it is believed that the excavation activities to remove the bulk of the Cell 4 DNAPL source material will result in the dissolved naphthalene/VOCs concentrations in shallow groundwater at Cell 5 to naturally attenuate.

7.0 CELL 6

7.1 DESCRIPTION

Cell 6 is located in the former Benzol Processing Area, approximately 500 feet east of Cell 1 and approximately 1,000 feet southeast of Cell 2. The locations of the extraction wells, groundwater reinjection wells, and system features are presented on **Figure C6-1**. The originally-designed Cell 6 IMs include the use of a LNAPL MPE system with CatOx or carbon treatment of off-gases. The Cell 6 extraction well network consists of fifty-three, 2-inch diameter by 17 foot-deep wells. The reinjection well network consists of three 6-inch diameter by 20 foot-deep wells located west-northwest of Cell 6. The extraction wells are connected to an above-ground extraction piping network that leads to the MPE vacuum pump system. Extracted liquids are processed through a series of poly tanks equipped with coalescing blocks to facilitate gravity separation of NAPL from water. Extracted groundwater had been disposed using the reinjection wells. The Cell 6 MPE system did not operate during 2022 due to electrical issues with the MPE blower motor and the overhead electric transformer.

In lieu of operating the MPE system, manual pumping operations continued in 2022 with the use of a pneumatic skimmer pump that was installed in former reinjection well CO173 in December 2019 and the implementation of an aggressive product recovery program in two test pits. In August 2022 test pits were excavated at several locations within the general vicinity of Cell 6. Manual pumping operations were used to periodically recover LNAPL from two test pits (located to the northwest of the former reinjection wells and in the southeast portion of Cell 6) with the use of a pneumatic double diaphragm pump (**Figure C6-1**). Approximately 1,631 gallons (approximately 11,952 pounds) of LNAPL were recovered from both test pits during the second half of 2022 and approximately 1,400 gallons (approximately 10,259 pounds) of LNAPL were recovered from CO173 during 2022 (compared to approximately 1,467 gallons [approximately 10,751 pounds] recovered during 2021), contributing to a cumulative total of approximately 3,031 gallons of LNAPL recovered by manual pumping operations at Cell 6 during 2022. **Table C6-1** summarizes cumulative LNAPL volumes recovered in 2022 from CO173 and the test pits, prior to 2019 via hand bailing and skimmer pumps, and between 2016 and 2021 via the MPE system. Weekly groundwater gauging and LNAPL thickness data collected from CO173 during 2022 is presented in **Table C6-2**. Since mid-2010, approximately 32,976 gallons (241,648 pounds) of LNAPL have been recovered from Cell 6 (**Figure C6-2**). All recovered LNAPL is temporarily stored in a series of three ASTs, and periodically disposed under manifest by an RCRA-licensed waste hauler and disposal facility.

LNAPL recovery rates were diminishing while the MPE system was operational. There are only two areas in the Cell 6 extraction well field (in the vicinities of extraction wells CO92/CO150 and CO99) with significant (e.g. greater than 1 foot thicknesses) LNAPL remaining. These two

remaining locations are targeted for treatment/removal in the separate *COA Cell 6 Hotspot Excavation Work Plan* (December 12, 2022), the *COA Cell 6 Pilot Test Work Plan* (July 20, 2023), and associated comment response letters.

Figure C6-3 presents the average LNAPL thicknesses measured in the extraction well network during the third quarter 2022.

7.2 SUMMARY AND RECOMMENDATIONS

The Cell 6 IMs originally consisted of the operation of an MPE system to remove LNAPL from the shallow groundwater underlying Cell 6. The MPE system was non-operational in 2022. Manual LNAPL recovery continues with use of a semi-automated pneumatic skimmer pump in former reinjection well CO173; LNAPL removal volumes from CO173 have remained fairly consistent from year to year. Weekly groundwater gauging and LNAPL thickness data collected from CO173 during 2022 is presented in **Table C6-2**. In addition, aggressive product recovery operations were implemented in August 2022 to periodically recover LNAPL from two test pits in the vicinity of Cell 6 that have proven to be an effective LNAPL recovery option. The two remaining hotspot locations (in the vicinities of extraction wells CO92/CO150 and CO99) are targeted for treatment/removal in the separate *COA Cell 6 Hotspot Excavation Work Plan* (December 12, 2022), the *COA Cell 6 Pilot Test Work Plan* (July 20, 2023), and associated comment response letters. The MPE system will be maintained in operational condition as the work plan progresses and the results are evaluated.

8.0 SUMMARY AND CONCLUSIONS

During 2022, the former COA Cell 1, Cell 3, and Cell 5 IMs were operated in accordance with their original designs.

The Cell 1 AS/SVE system removed approximately 92.3 pounds of VOCs in 2022 and will continue to be operated in 2023.

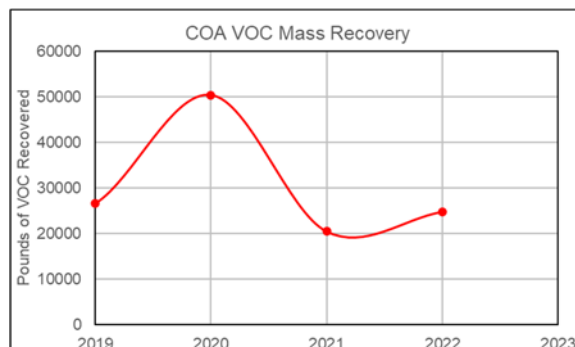
The Cell 2 GWPT system IM objectives and effectiveness are under review. Repairs, upgrades, and alternate remedies are being evaluated. The effectiveness of this system and how it relates to the existing groundwater dewatering system at the Graving Dock in providing hydraulic control of the VOC plume in the vicinity of Cell 2 is under review. Concurrent groundwater dewatering operations at the nearby Graving Dock provide relatively expansive hydraulic control of the VOC-impacted groundwater within the intermediate groundwater zone beneath Cell 2.

The Cell 3 AS/SVE system removed approximately 72.4 pounds of VOCs in 2022 and will continue to be operated in 2023.

TPA is currently excavating the Cell 4 source area DNAPL which will facilitate VOC concentration reductions in the groundwater underlying Cell 5 over time.

The Cell 6 MPE system IM did not operate in 2022, but significant LNAPL volumes were recovered using the semi-automated pneumatic skimmer pump in well CO173 and manual pumping operations to periodically recover LNAPL from two test pits excavations within Cell 6. The two remaining hotspot locations (in the vicinities of extraction wells CO92/CO150 and CO99) are targeted for treatment/removal in the separate work plans currently under Agency review.

A total of approximately 24,785 pounds of VOCs were removed by the IMs and manual LNAPL recovery operations at the six Cell areas in 2022. In comparison, approximately 20,525 pounds of VOCs were removed in 2021.



9.0 REFERENCES

ARM Group LLC (2023). *Coke Oven Area Cell 2 Interim Measure Shutdown Request*. Revision 1. October 3, 2023.

ARM Group LLC (2023). *Coke Oven Area Cell 6 Pilot Test Work Plan*. Revision 0. July 20, 2023.

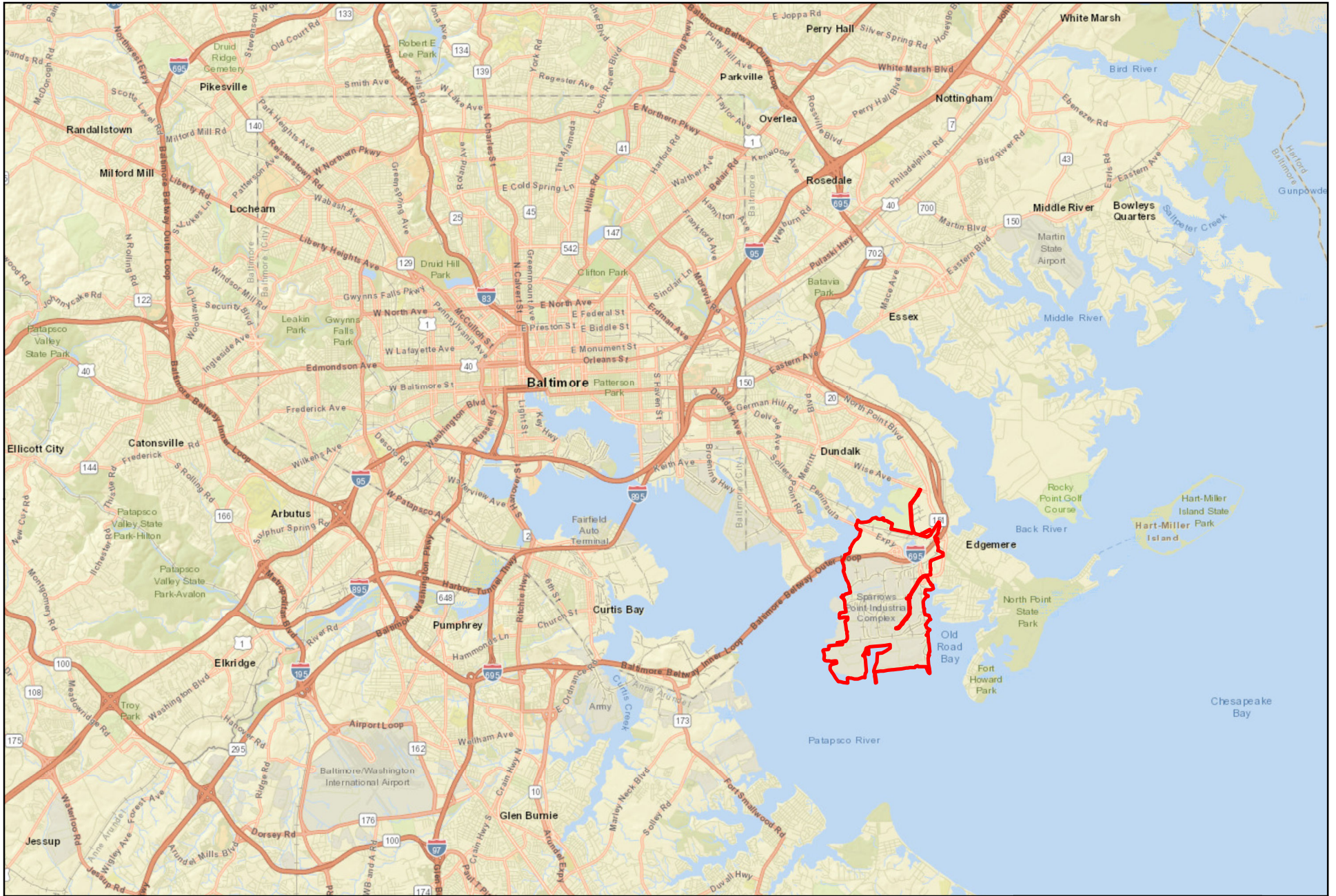
ARM Group LLC (2022). *Coke Oven Area Cell 6 Hotspot Excavation Work Plan*. Revision 0. December 12, 2022.

ARM Group LLC (2022). *DNAPL Excavation Work Plan Area B: Parcel B10 Cell 4*. Revision 0. November 10, 2022.

ARM Group LLC (2021). *Coke Point Area Groundwater Corrective Measures Study Work Plan*. Revision 1. January 15, 2021.

FIGURES





ARM Group LLC
Engineers and Scientists

0 1.25 2.5 5 Miles

Property Boundary

**Tradepoint Atlantic
Regional Site View**

January 19, 2021

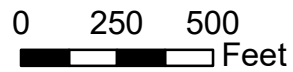
Tradepoint Atlantic
United States
Baltimore County, MD

**Figure
1**



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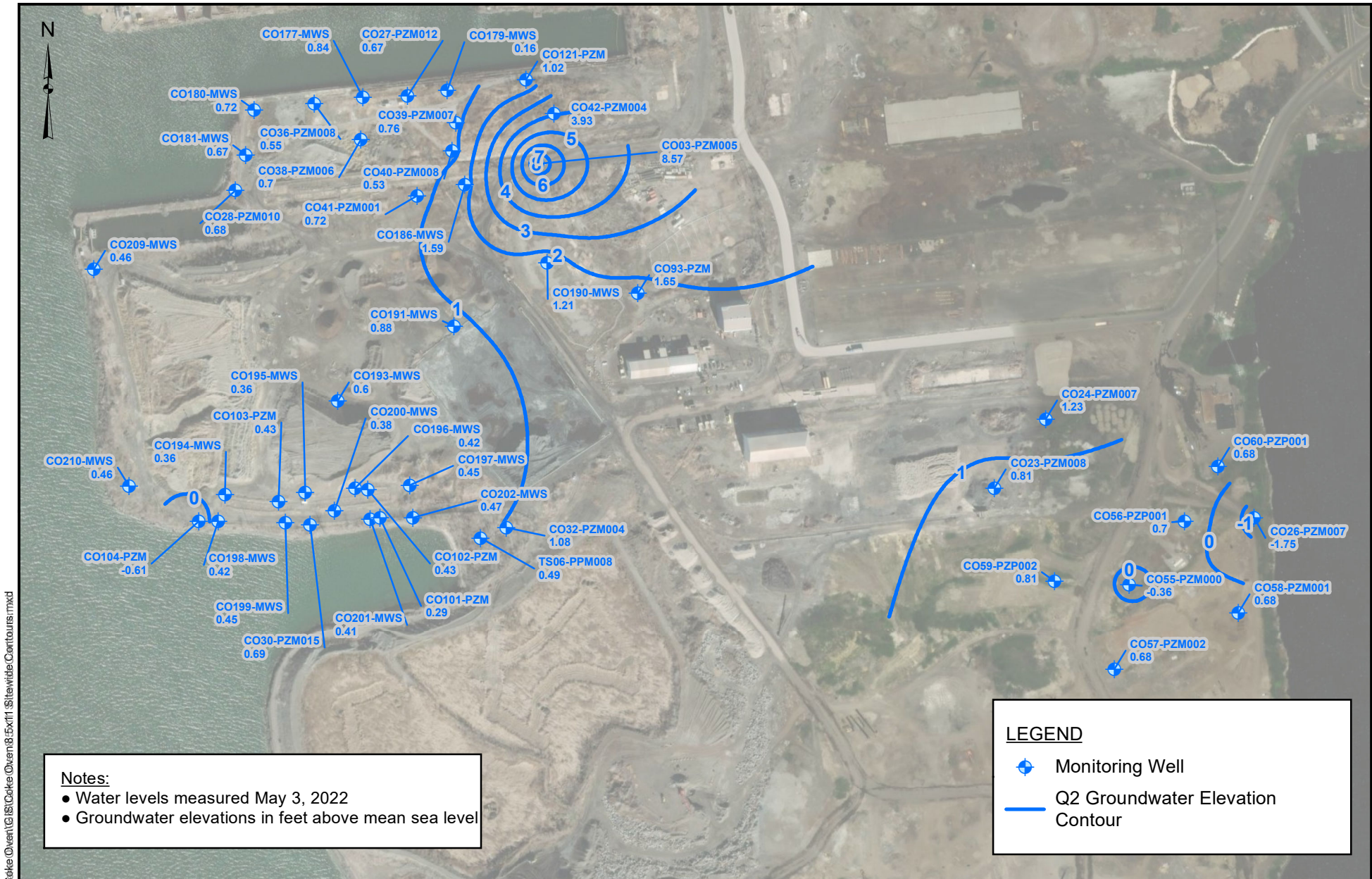
1 inch = 500 feet



Former Coke Oven Area Interim Measures Cell Locations

Date: 2/23/2022

Figure 2

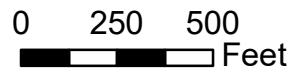


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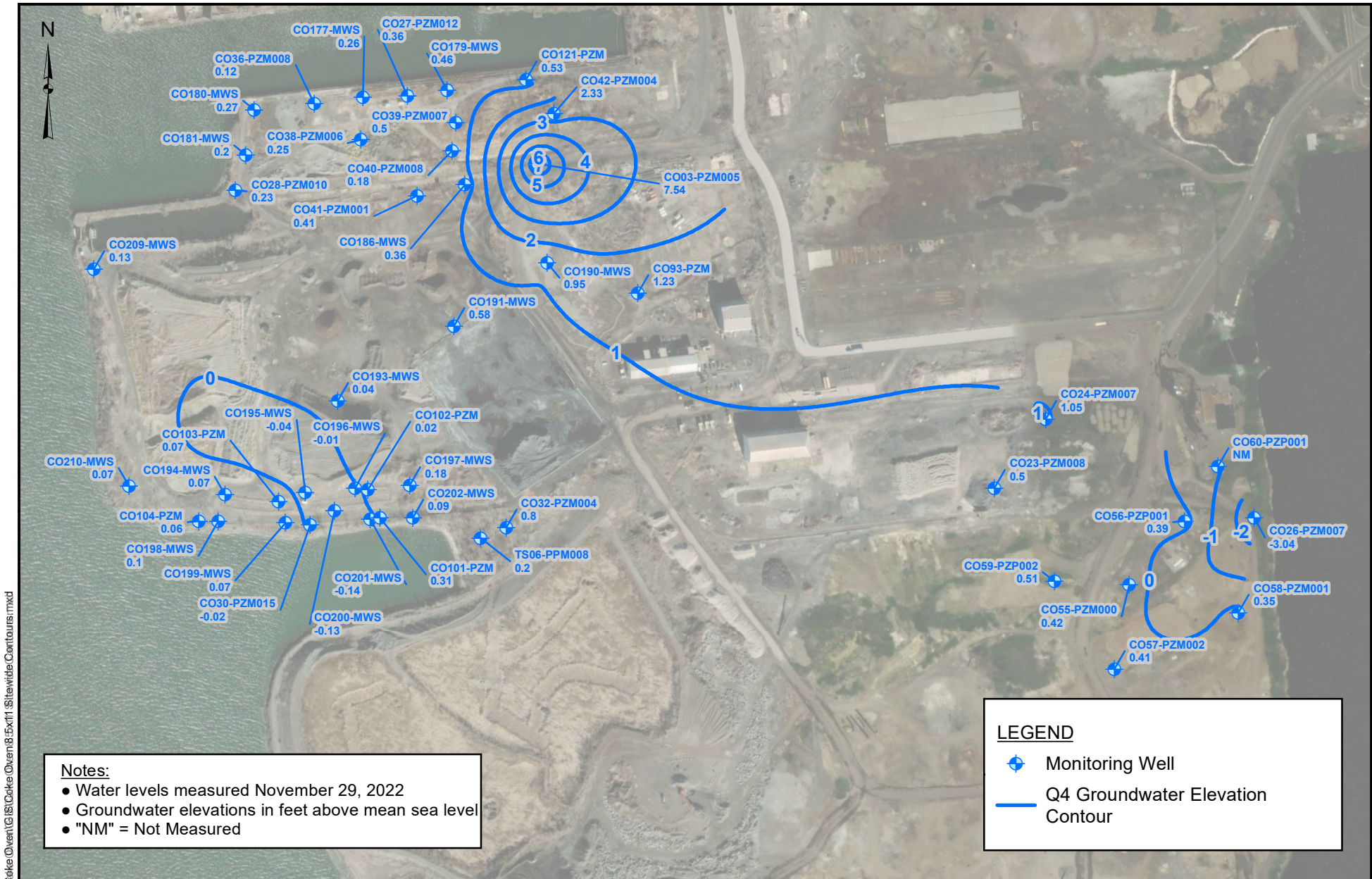
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Former Coke Oven Area
Sitewide Q2 Groundwater Elevation
Contours Shallow Zone

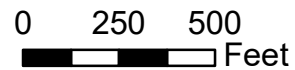
Date: 9/20/2023

**Figure
3-1**



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1 inch = 500 feet



Former Coke Oven Area
Sitewide Q4 Groundwater Elevation
Contours Shallow Zone






Date: 9/20/2023

**Figure
3-2**



MD IMAP, USDA

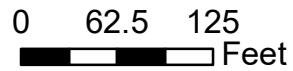
Legend

-  Shallow Monitoring Well
-  Formerly Sampled Well
-  Air Sparge Well
-  Vapor Extraction Header
-  Vapor Collection Trench



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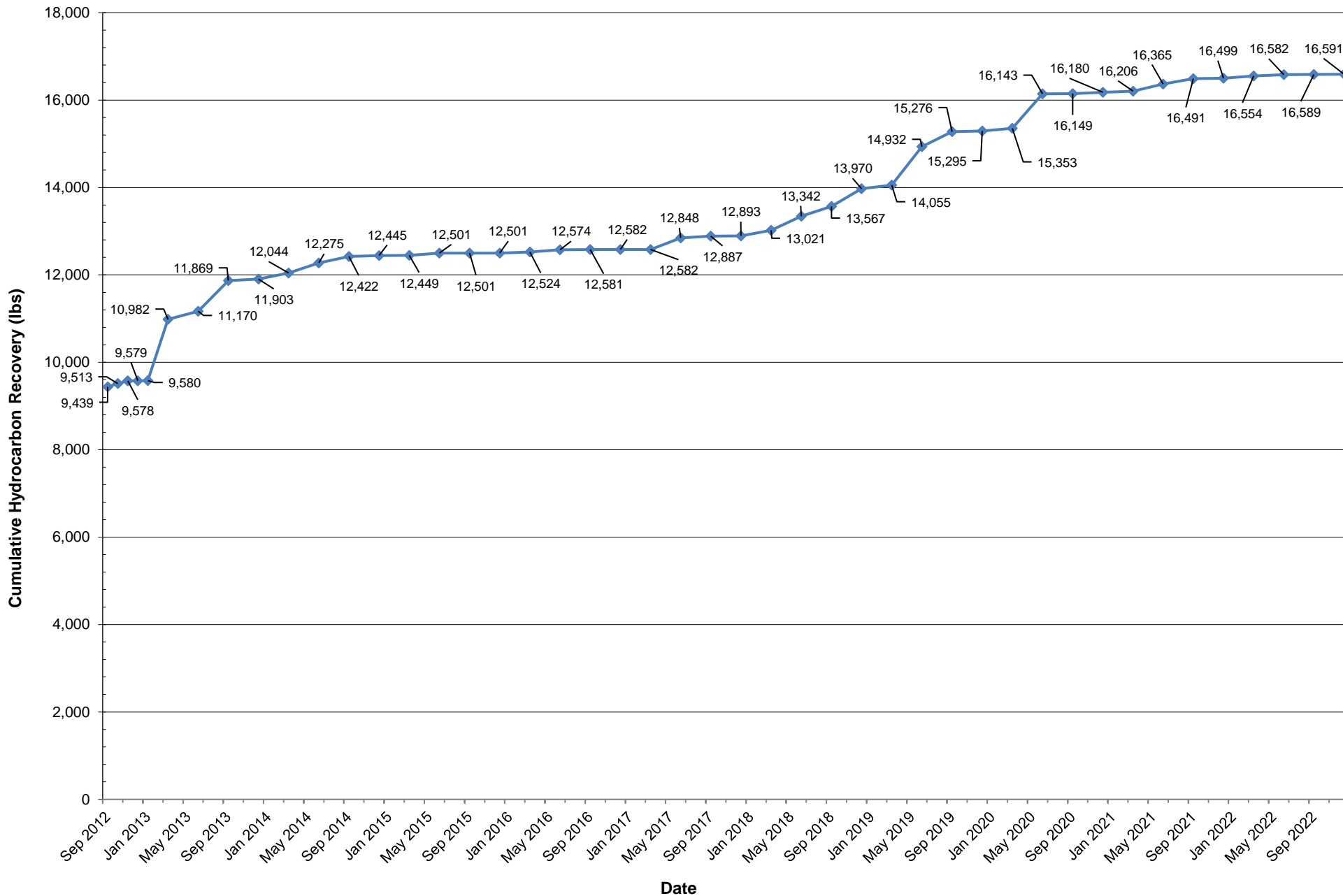
1 inch = 130 feet



Former Coke Oven Area
Cell 1 System Layout
AS/SVE

Date: 10/3/2023

**Figure
C1-1**



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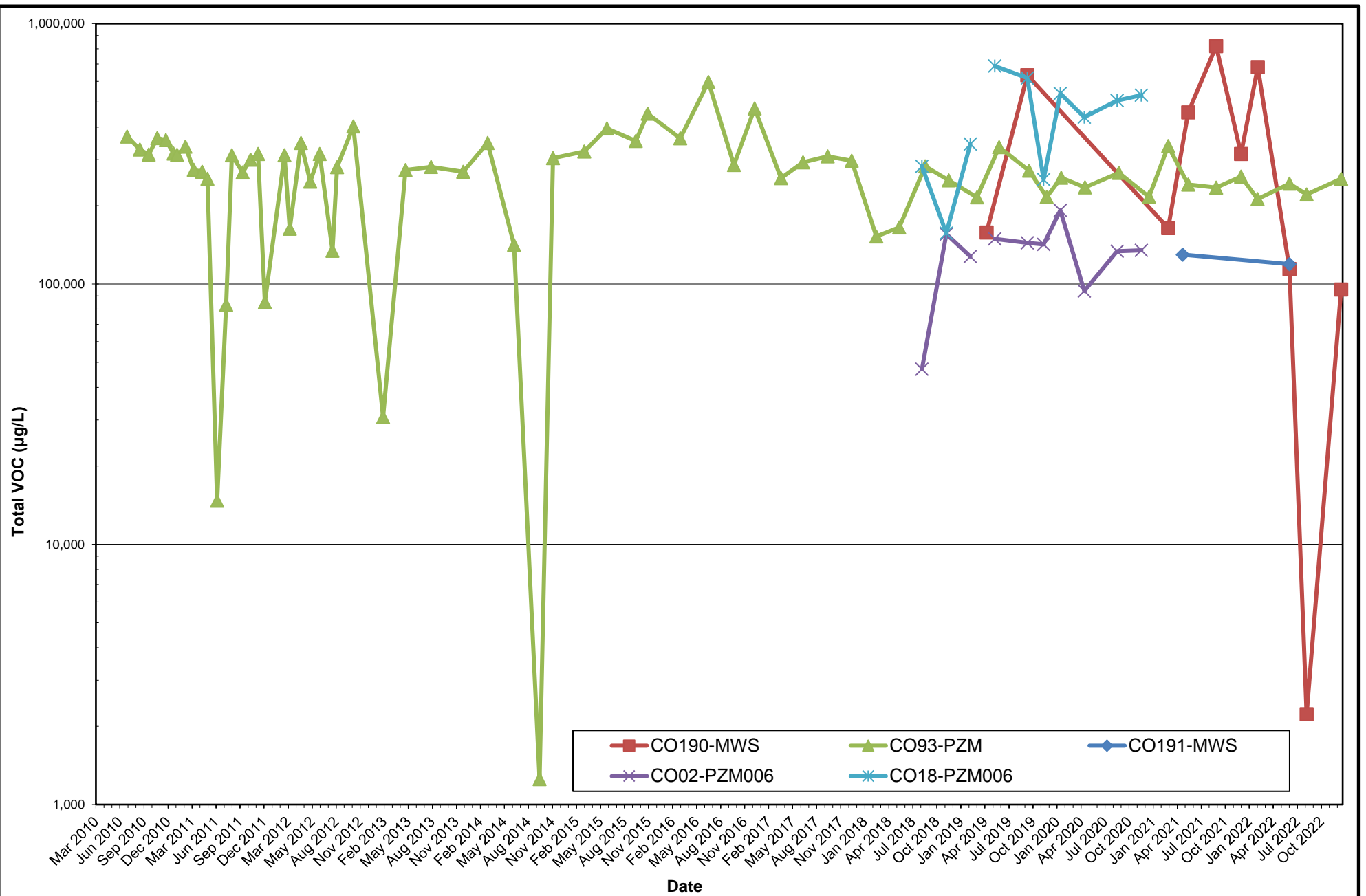
Former Coke Oven Area
Tradeport Atlantic

Sparrows Point, Maryland

Cumulative Hydrocarbon Recovery (lbs) Cell 1

January 3, 2023

**Figure
C1-2**



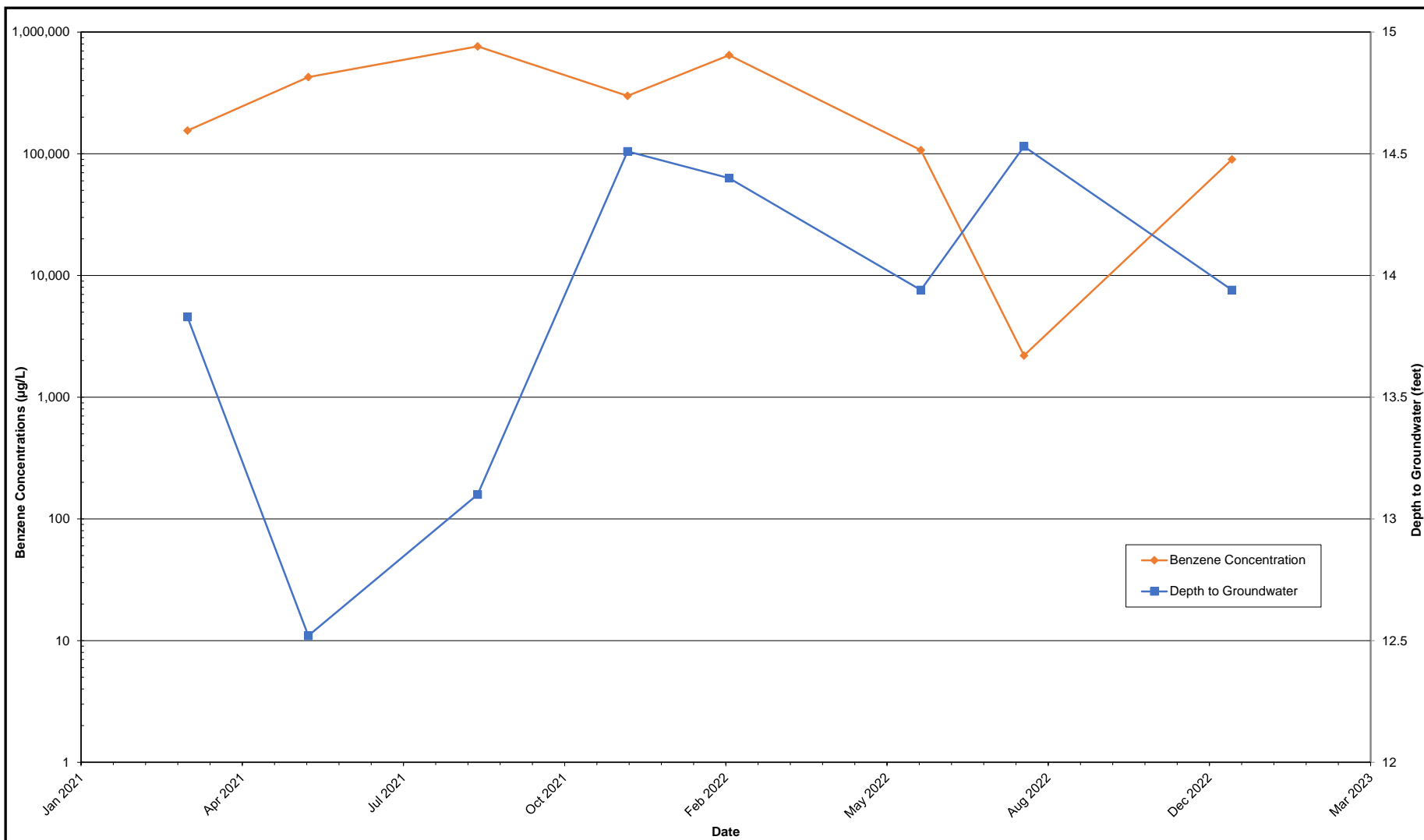
Former Coke Oven Area
Tradeport Atlantic

Sparrows Point, Maryland

Total VOCs in Groundwater Cell 1 Shallow Zone

January 23, 2023

**Figure
C1-3**



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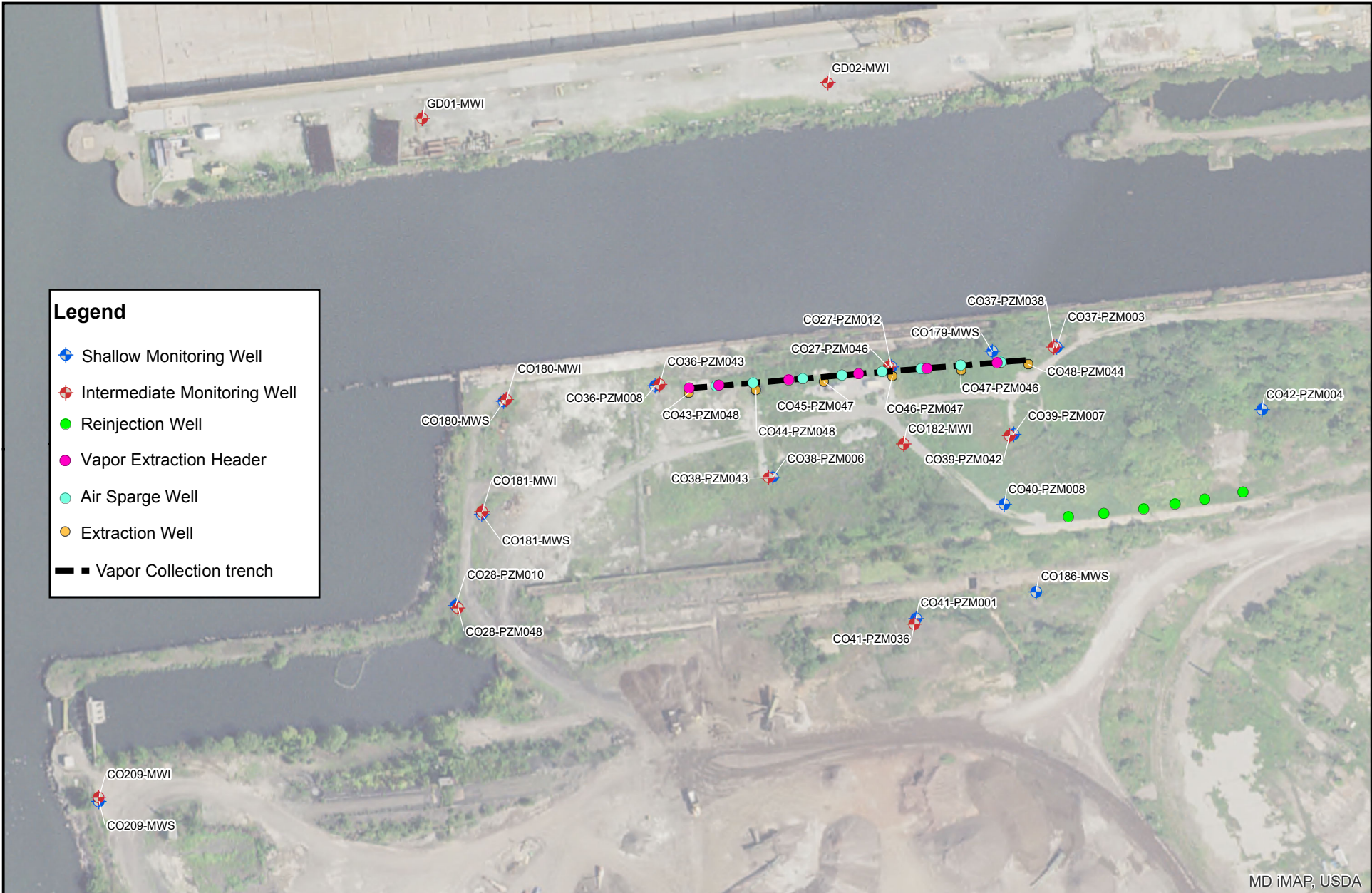
Former Coke Oven Area
Tradeport Atlantic

Sparrows Point, Maryland

Cell 1 CO190-MWS Benzene Concentration
vs. Depth to Groundwater Hydrograph

September 27, 2023

Figure
C1-4



Legend

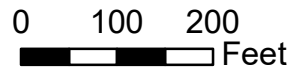
- Shallow Monitoring Well
- Intermediate Monitoring Well
- Reinjection Well
- Vapor Extraction Header
- Air Sparge Well
- Extraction Well
- Vapor Collection trench

MD IMAP, USDA



ARM Group LLC
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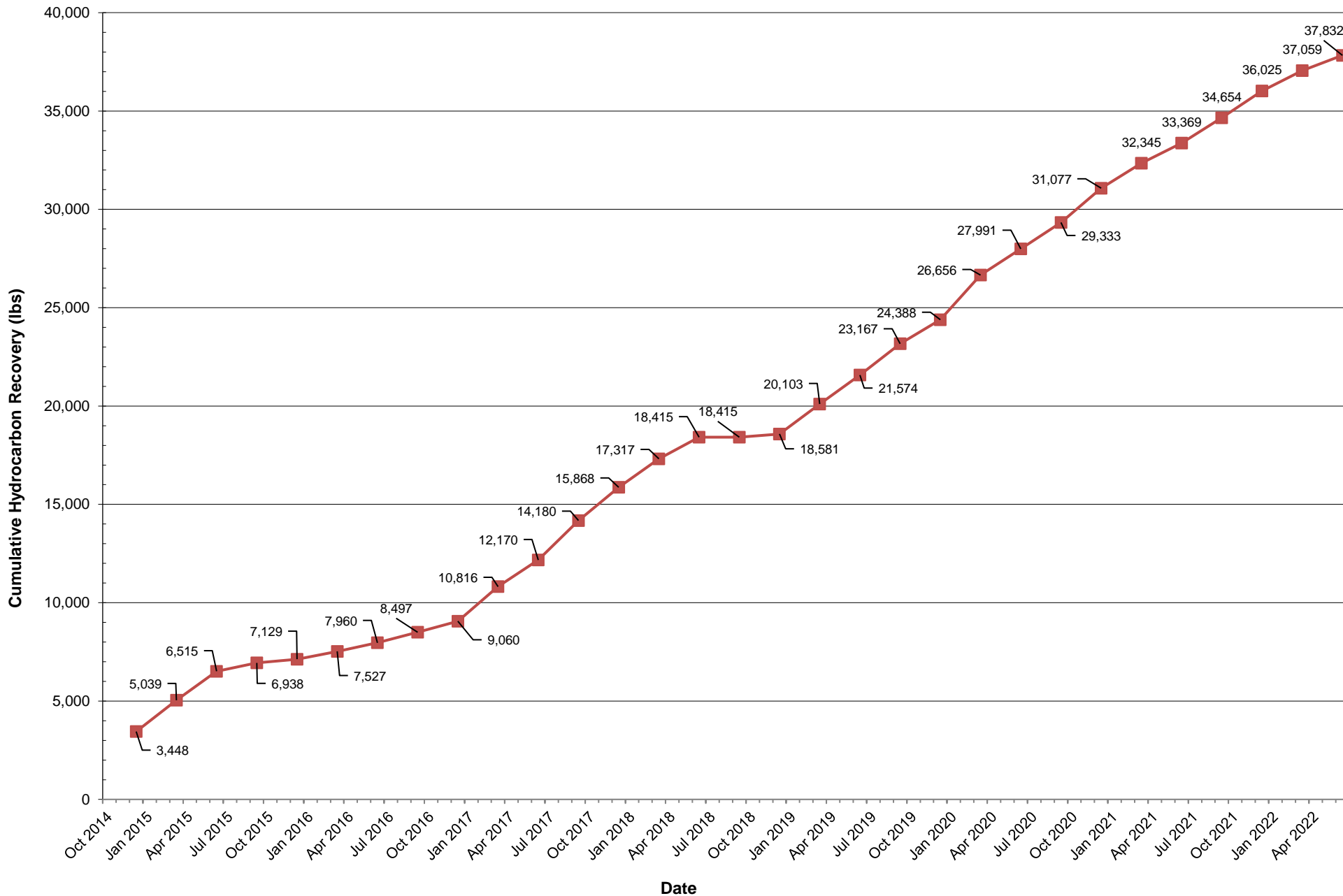
1 inch = 200 feet



**Former Coke Oven Area
Cell 2 System Layout
AS/SVE and GW P&T**

Date: 2/8/2022

**Figure
C2-1**



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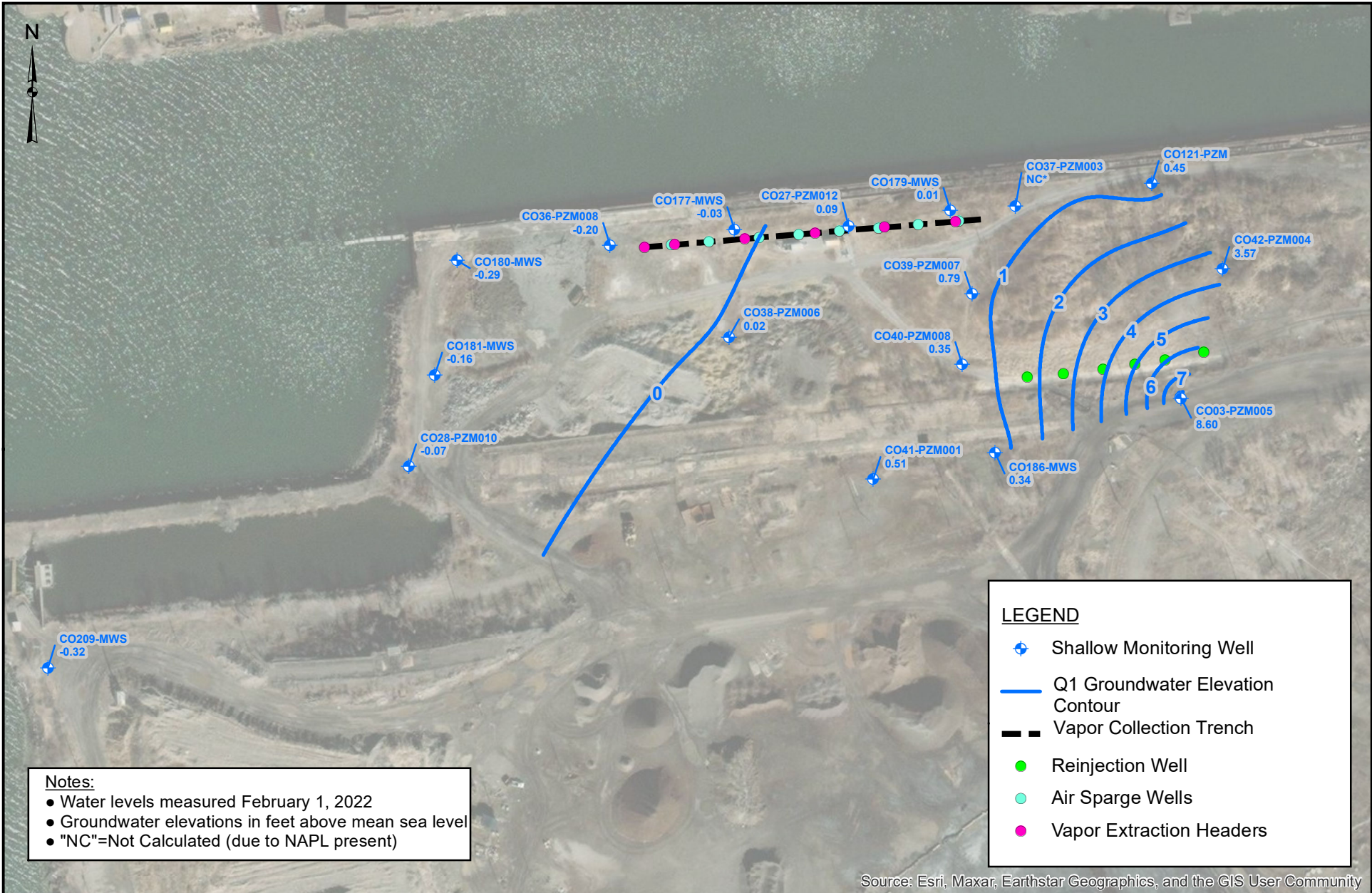
Former Coke Oven Area
Tradeport Atlantic

Sparrows Point, Maryland

Cumulative Hydrocarbon Recovery (lbs) Cell 2

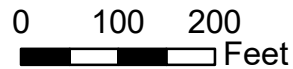
December 30, 2022

**Figure
C2-2**



ARM Group LLC
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1 inch = 200 feet



Former Coke Oven Area
Cell 2 Q1 Groundwater Elevation
Contours Shallow Zone

Date: 12/23/2022

**Figure
C2-3**

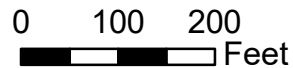


Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



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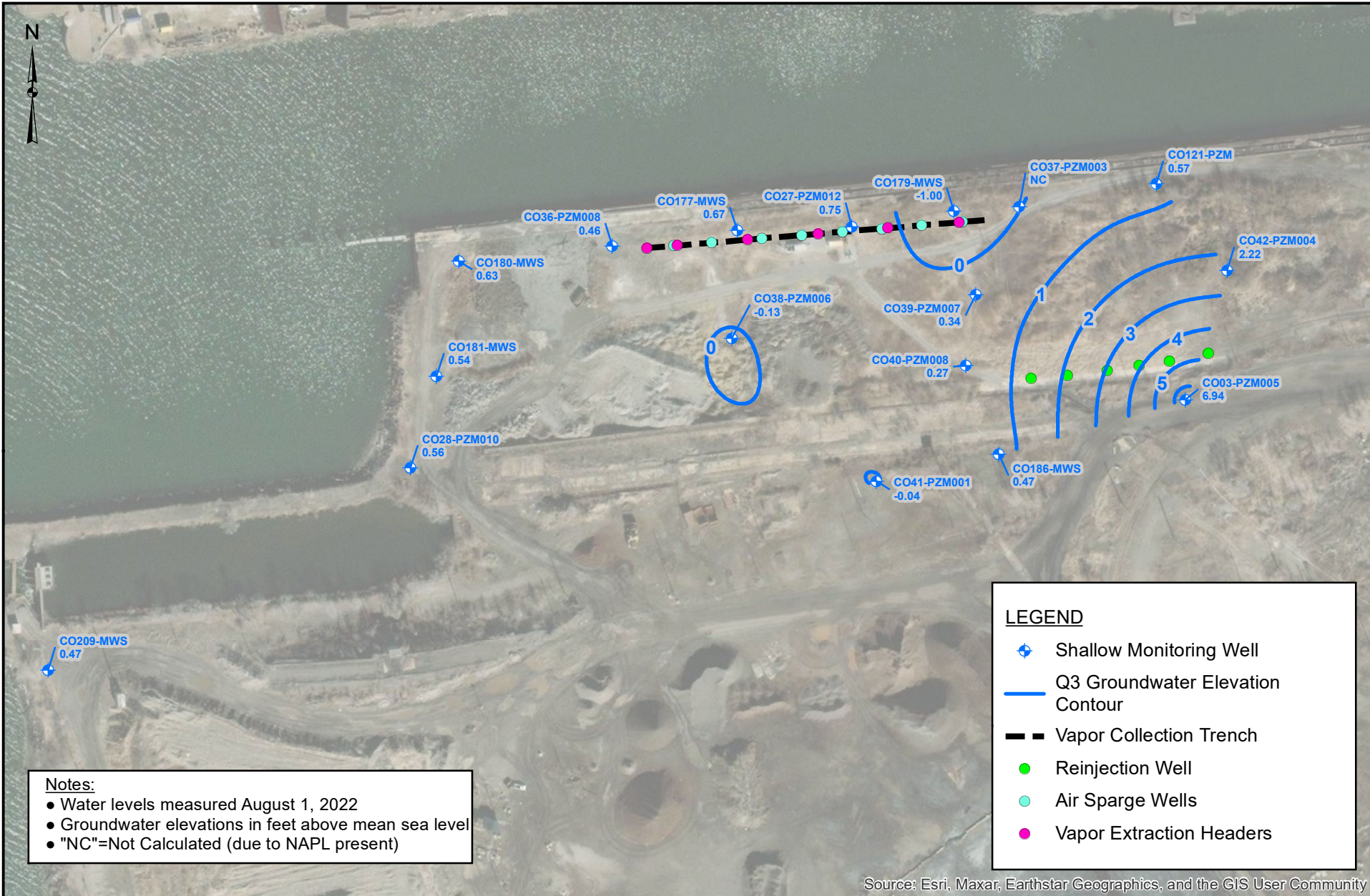
1 inch = 200 feet



Former Coke Oven Area Cell 2 Q2 Groundwater Elevation Contours Shallow Zone

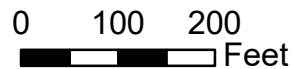
Date: 12/23/2022

Figure C2-4



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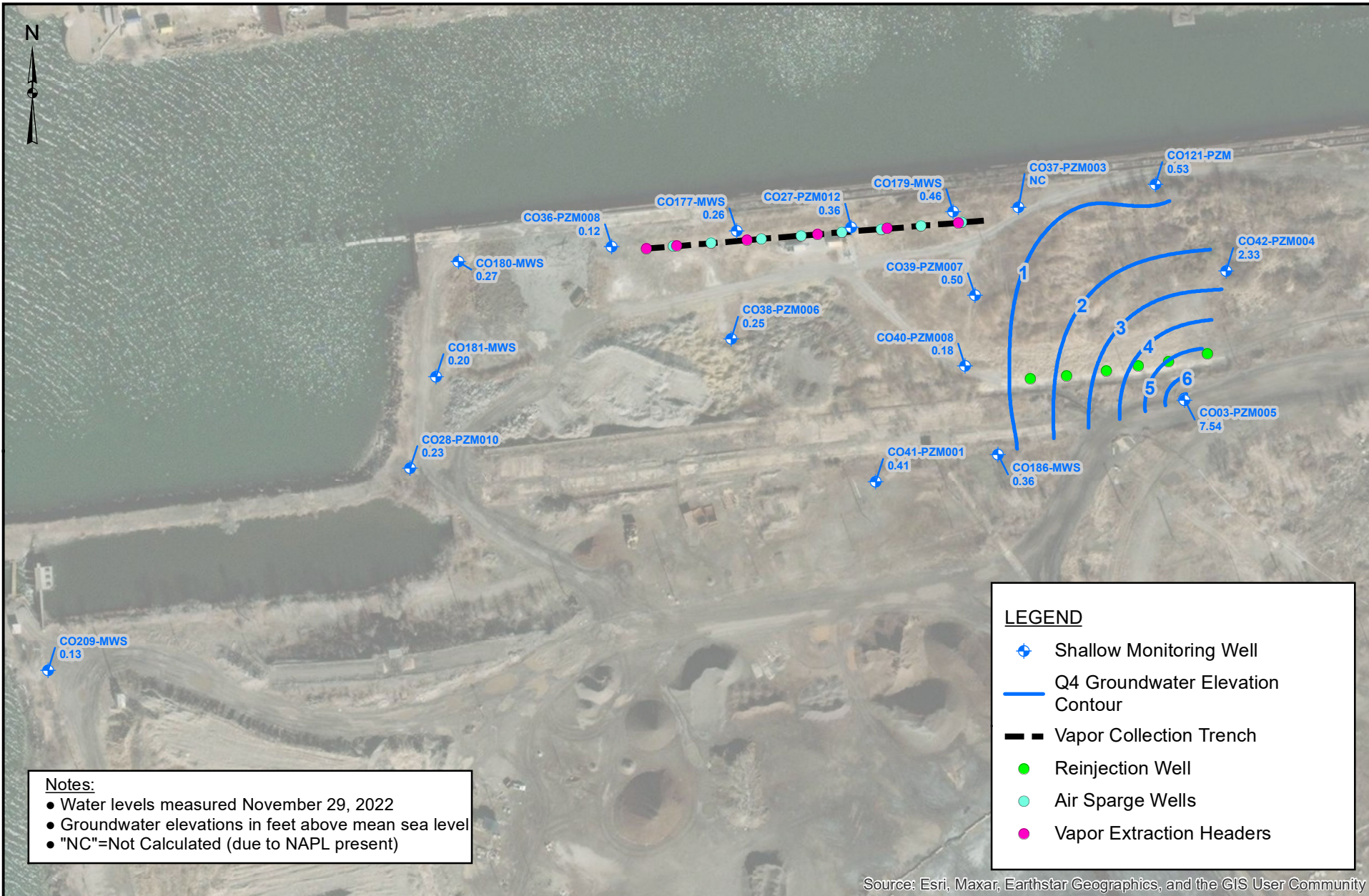
1 inch = 200 feet



Former Coke Oven Area
Cell 2 Q3 Groundwater Elevation
Contours Shallow Zone

Date: 12/23/2022

**Figure
C2-5**

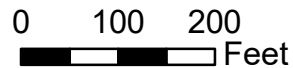


Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area Cell 2 Q4 Groundwater Elevation Contours Shallow Zone

Date: 12/23/2022

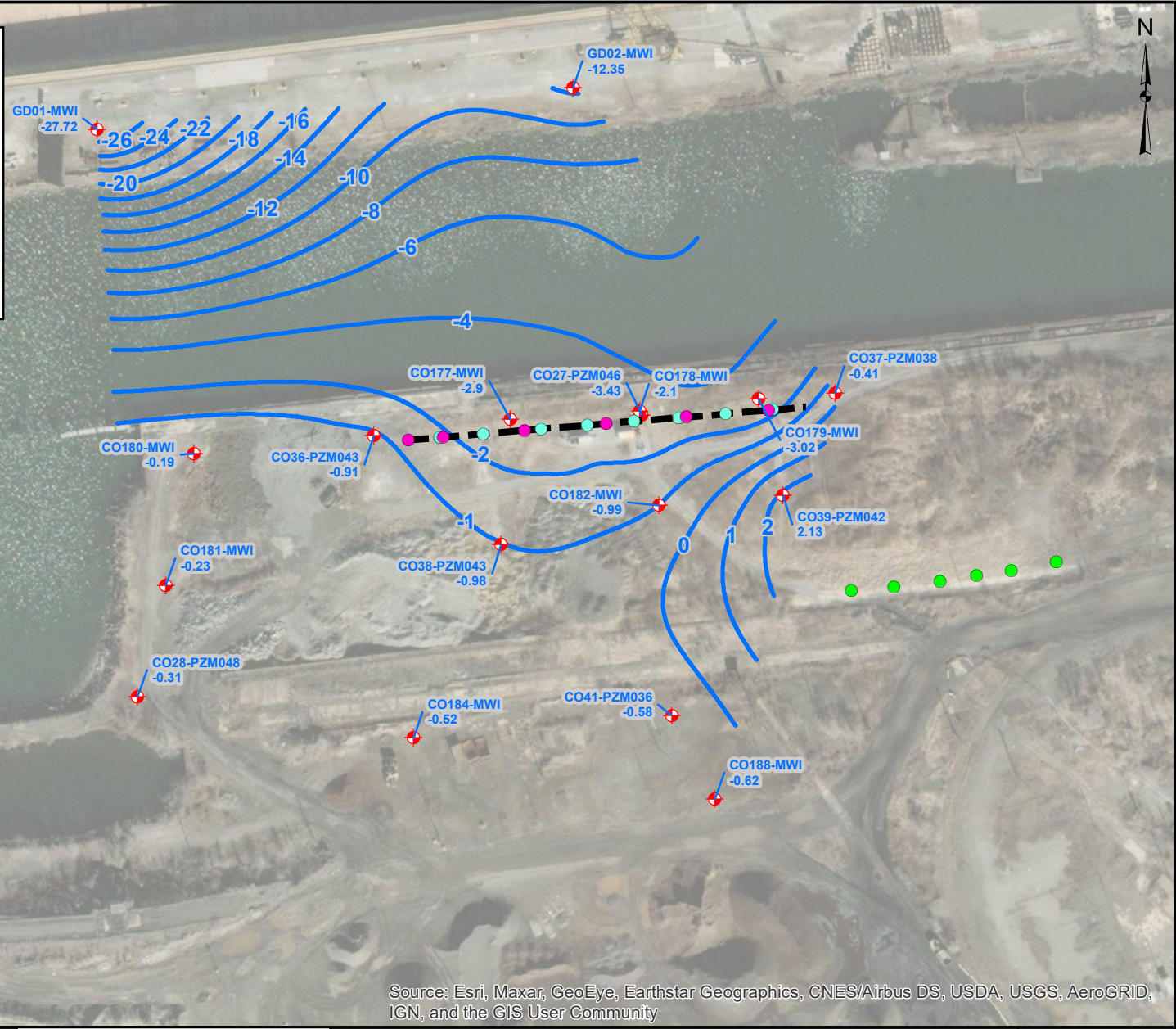
Figure C2-6

Legend

- Q1 Groundwater Elevation Contour
- ⊕ Intermediate Monitoring Well
- Vapor Collection Trench
- Reinjection Well
- Air Sparge Wells
- Vapor Extraction Headers

Notes:

- Water Levels measured February 1st, 2022
- Groundwater elevations in feet above mean sea level

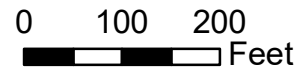


P:\EnviroAnalytics\Group\Coke Oven\GIS\Coke Oven 8.5x11 (IM 2022 cell 2 intermediate).mxd



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



**Former Coke Oven Area
Cell 2 Q1 Groundwater Elevation
Contours Intermediate Zone**

Date: 2/1/2023

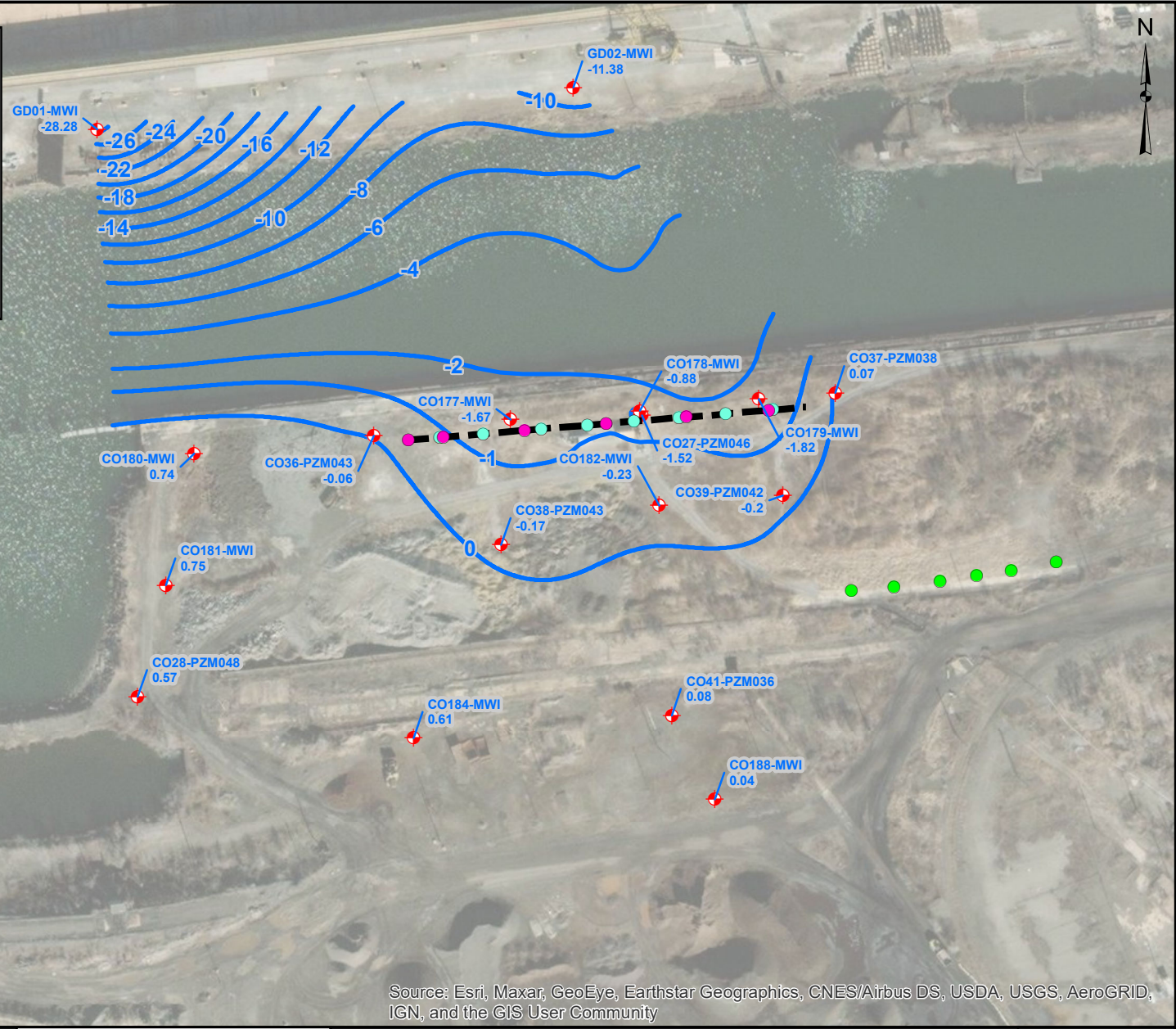
**Figure
C2-7**

Legend

- Q2 Groundwater Elevation Contour
- ⊕ Intermediate Monitoring Well
- Vapor Collection Trench
- Reinjection Well
- Air Sparge Wells
- Vapor Extraction Headers

Notes:

- Water Levels measured May 3rd, 2022
- Groundwater elevations in feet above mean sea level

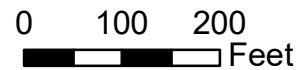


Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



ARM Group LLC
Engineers and Scientists

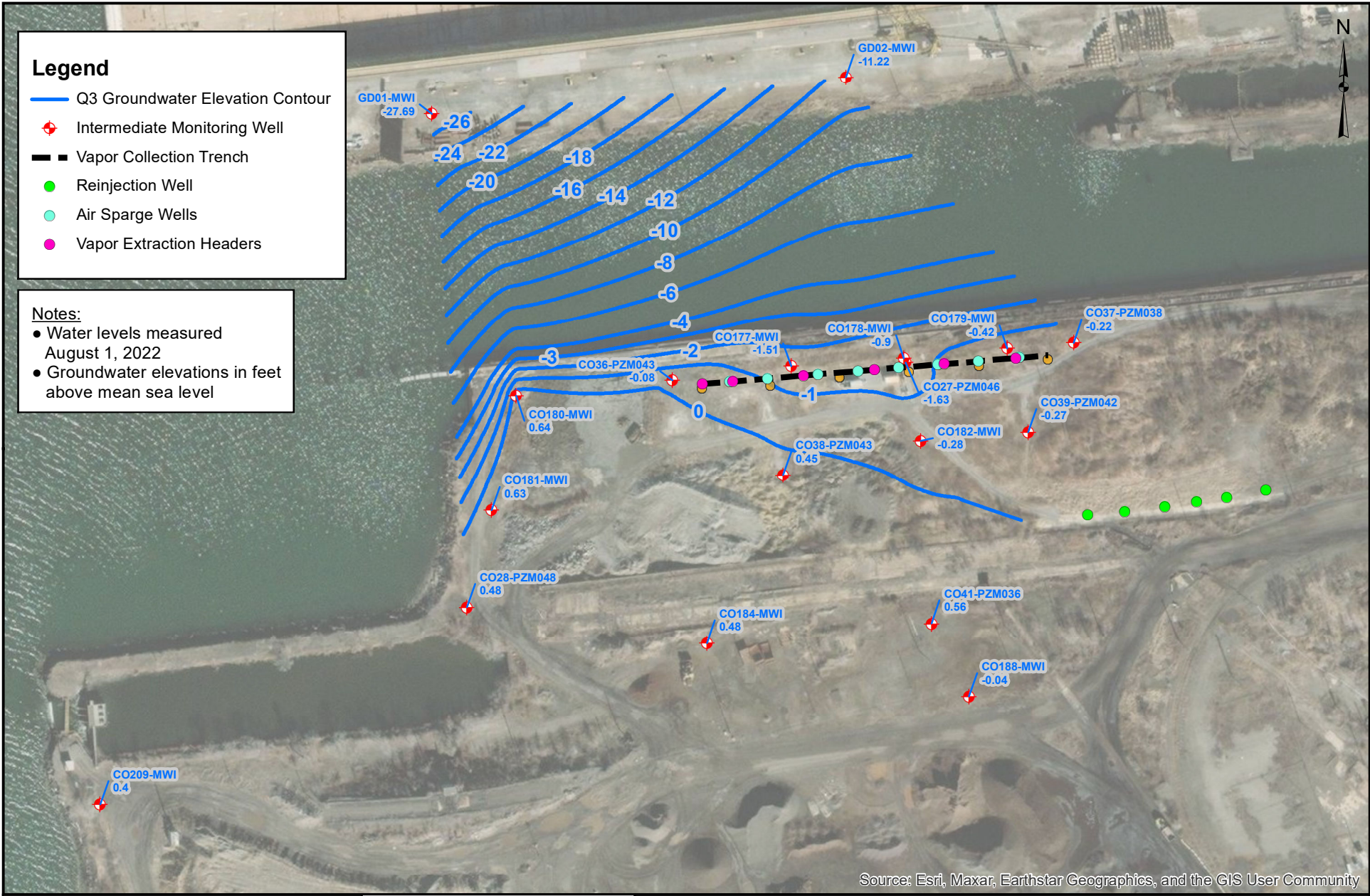
1 inch = 200 feet



Former Coke Oven Area
Cell 2 Q2 Groundwater Elevation
Contours Intermediate Zone

Date: 2/1/2023

**Figure
C2-8**

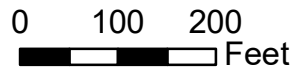


Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area
Cell 2 Q3 Groundwater Elevation
Intermediate Zone

Date: 2/7/2023

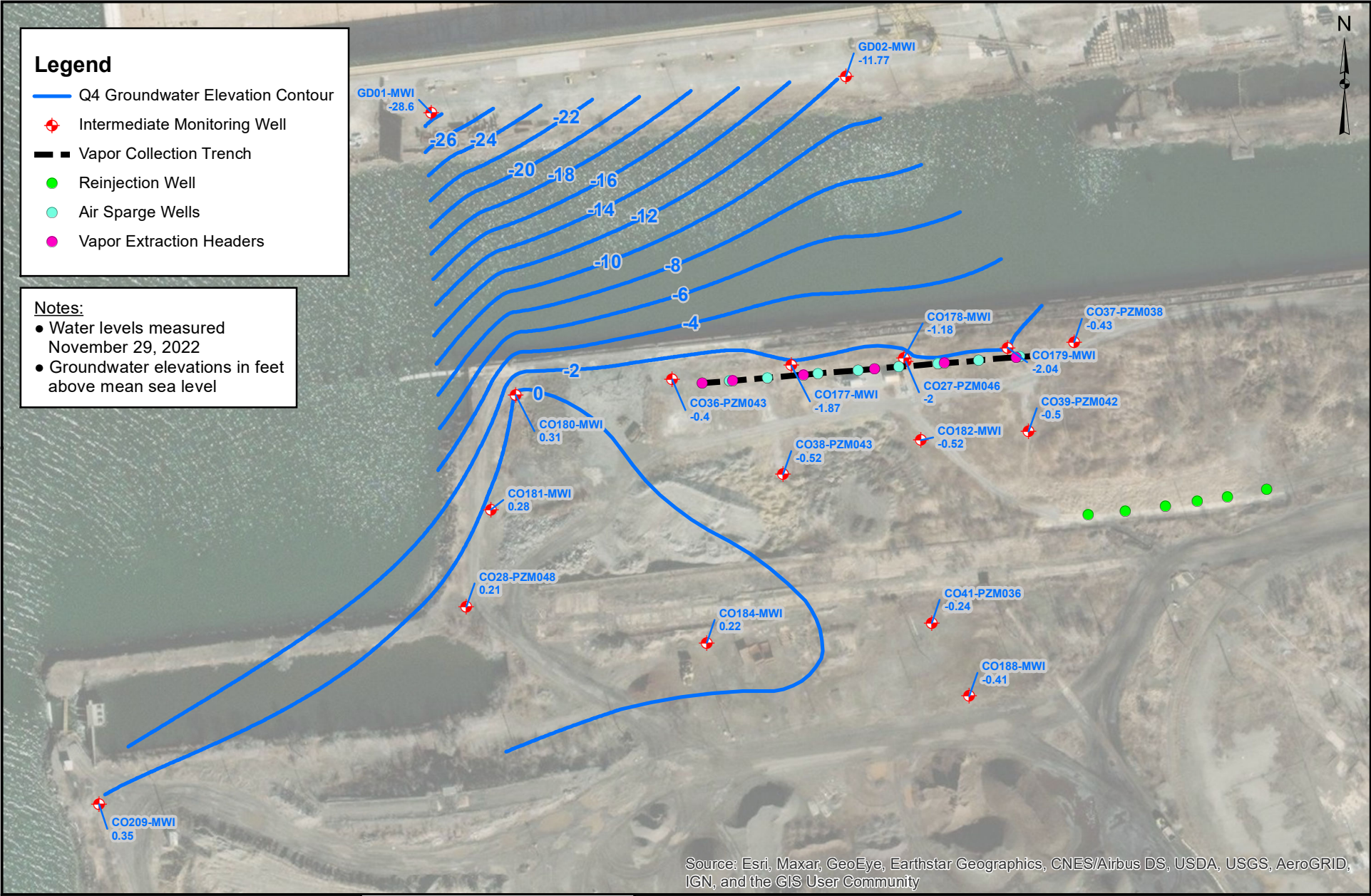
Figure C2-9

Legend

- Q4 Groundwater Elevation Contour
- ◆ Intermediate Monitoring Well
- — Vapor Collection Trench
- Reinjection Well
- Air Sparge Wells
- Vapor Extraction Headers

Notes:

- Water levels measured November 29, 2022
- Groundwater elevations in feet above mean sea level

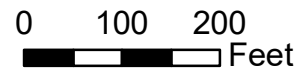


Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area
Cell 2 Q4 Groundwater Elevation
Contours Intermediate Zone

Date: 2/1/2023

**Figure
C2-10**

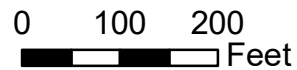


MD IMAP, USDA



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area Cell 2 Q1 Benzene Concentrations Shallow Zone

Date: 2/6/2023

Figure C2-11

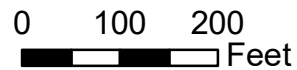


MD IMAP, USDA



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area Cell 2 Q2 Benzene Concentrations Shallow Zone

Date: 2/7/2023

Figure C2-12

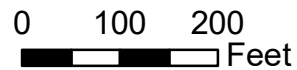


MD IMAP, USDA



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area Cell 2 Q3 Benzene Concentrations Shallow Zone

Date: 2/7/2023

Figure C2-13

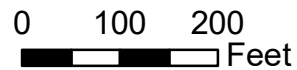


MD IMAP, USDA



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area Cell 2 Q4 Benzene Concentrations Shallow Zone

Date: 2/7/2023

Figure C2-14

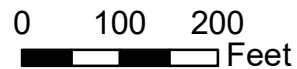


MD IMAP, USDA



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area Cell 2 Q1 Benzene Concentrations Intermediate Zone

Date: 2/6/2023

Figure C2-15

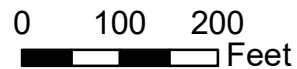


MD IMAP, USDA



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area Cell 2 Q2 Benzene Concentrations Intermediate Zone

Date: 2/6/2023

Figure C2-16

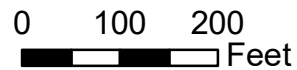


MD IMAP, USDA



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area Cell 2 Q3 Benzene Concentrations Intermediate Zone

Date: 2/6/2023

Figure C2-17

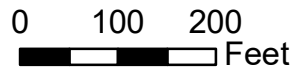


MD IMAP, USDA



ARM Group LLC
Engineers and Scientists

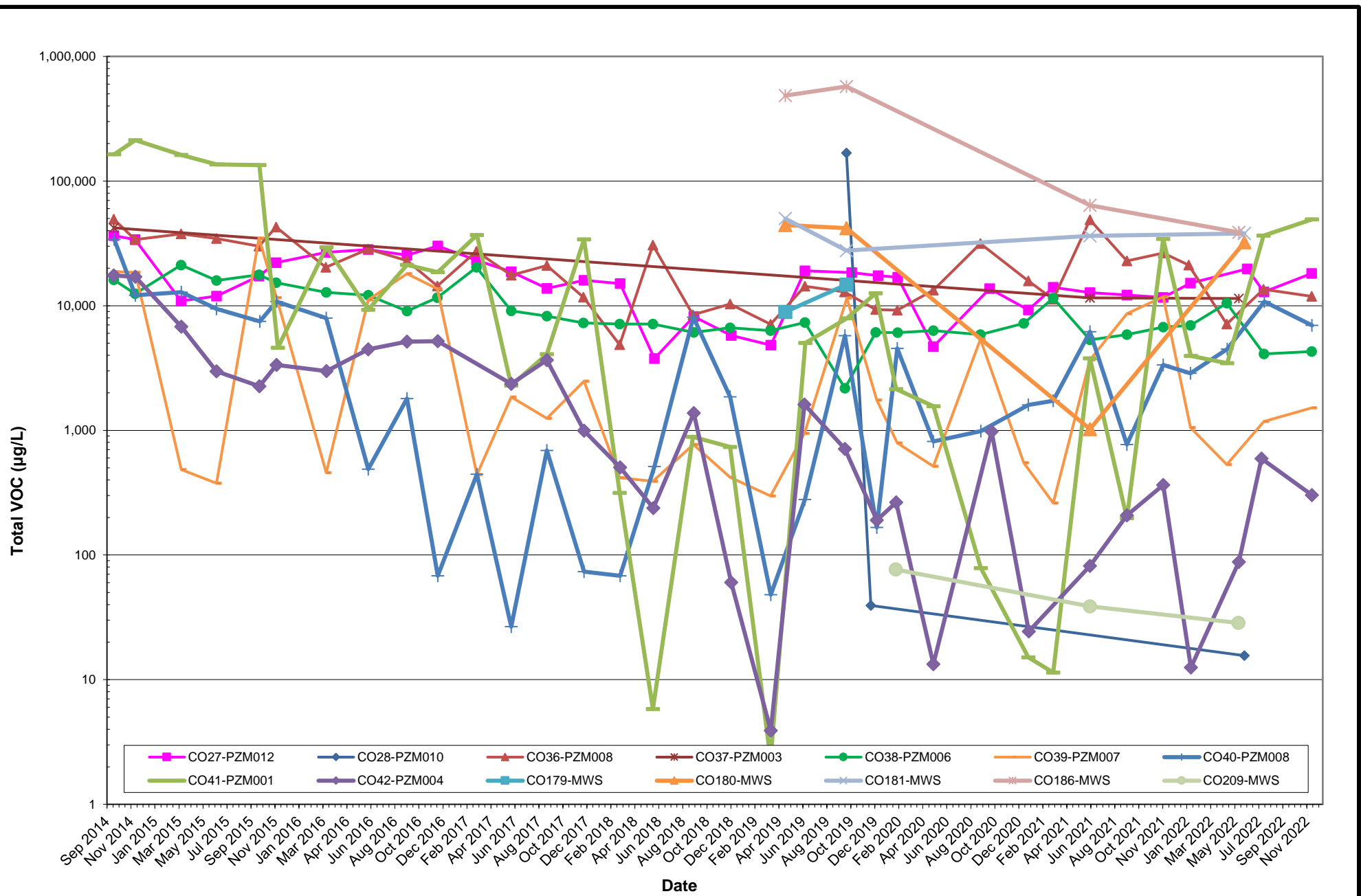
1 inch = 200 feet



Former Coke Oven Area
Cell 2 Q4 Benzene Concentrations
Intermediate Zone

Date: 2/6/2023

**Figure
C2-18**



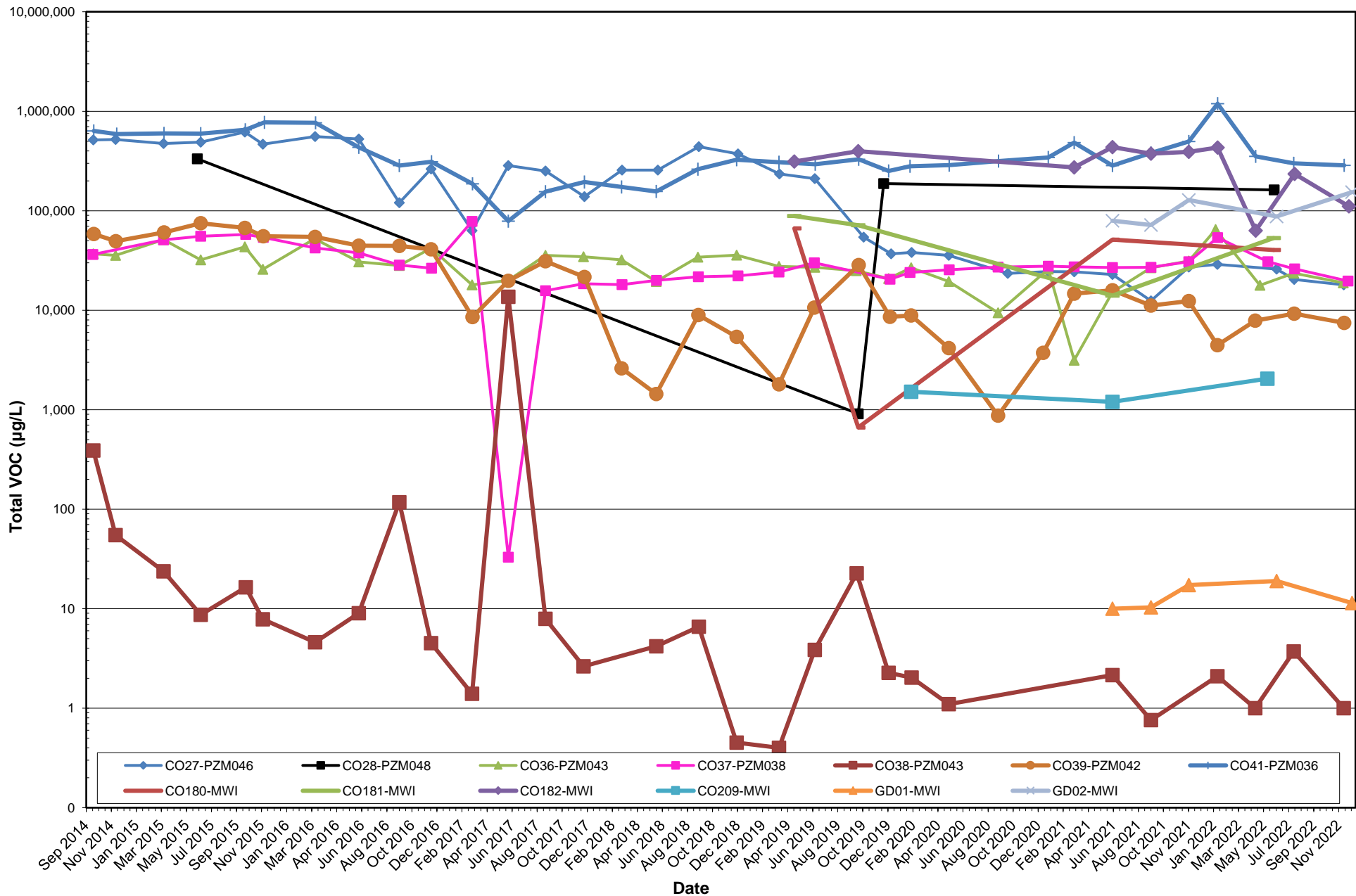
Former Coke Oven Area
Tradeport Atlantic

Sparrows Point, Maryland

Total VOCs in Groundwater Cell 2 Shallow Zone

January 23, 2023

**Figure
C2-19**



Former Coke Oven Area
Tradeport Atlantic

Sparrows Point, Maryland

Total VOCs in Groundwater Cell 2 Intermediate Zone

January 24, 2023

**Figure
C2-20**

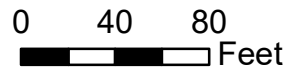


MD IMAP, USDA



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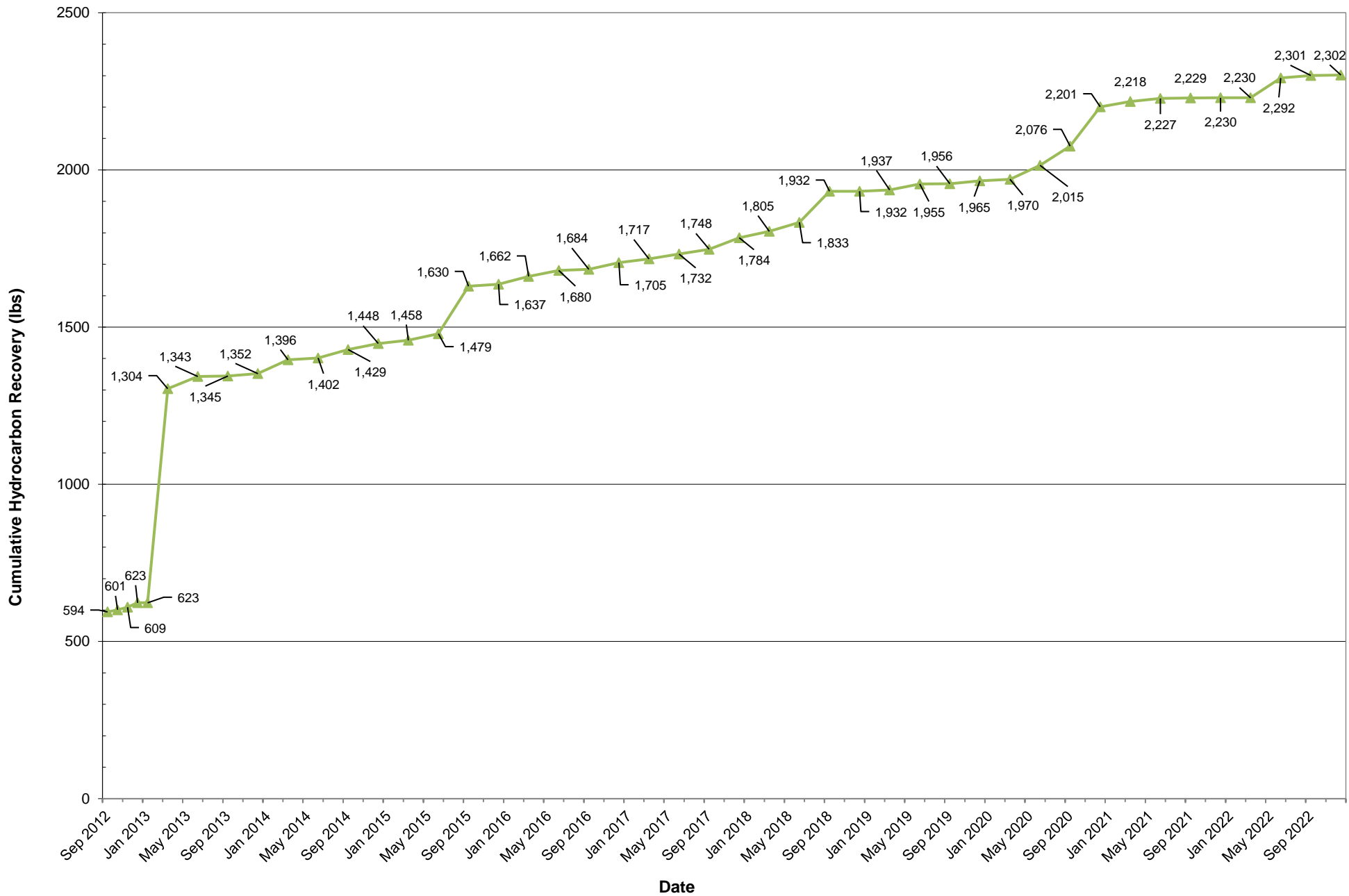
1 inch = 82 feet



Former Coke Oven Area
Cell 3 System Layout
AS/SVE

Date: 2/7/2022

**Figure
C3-1**



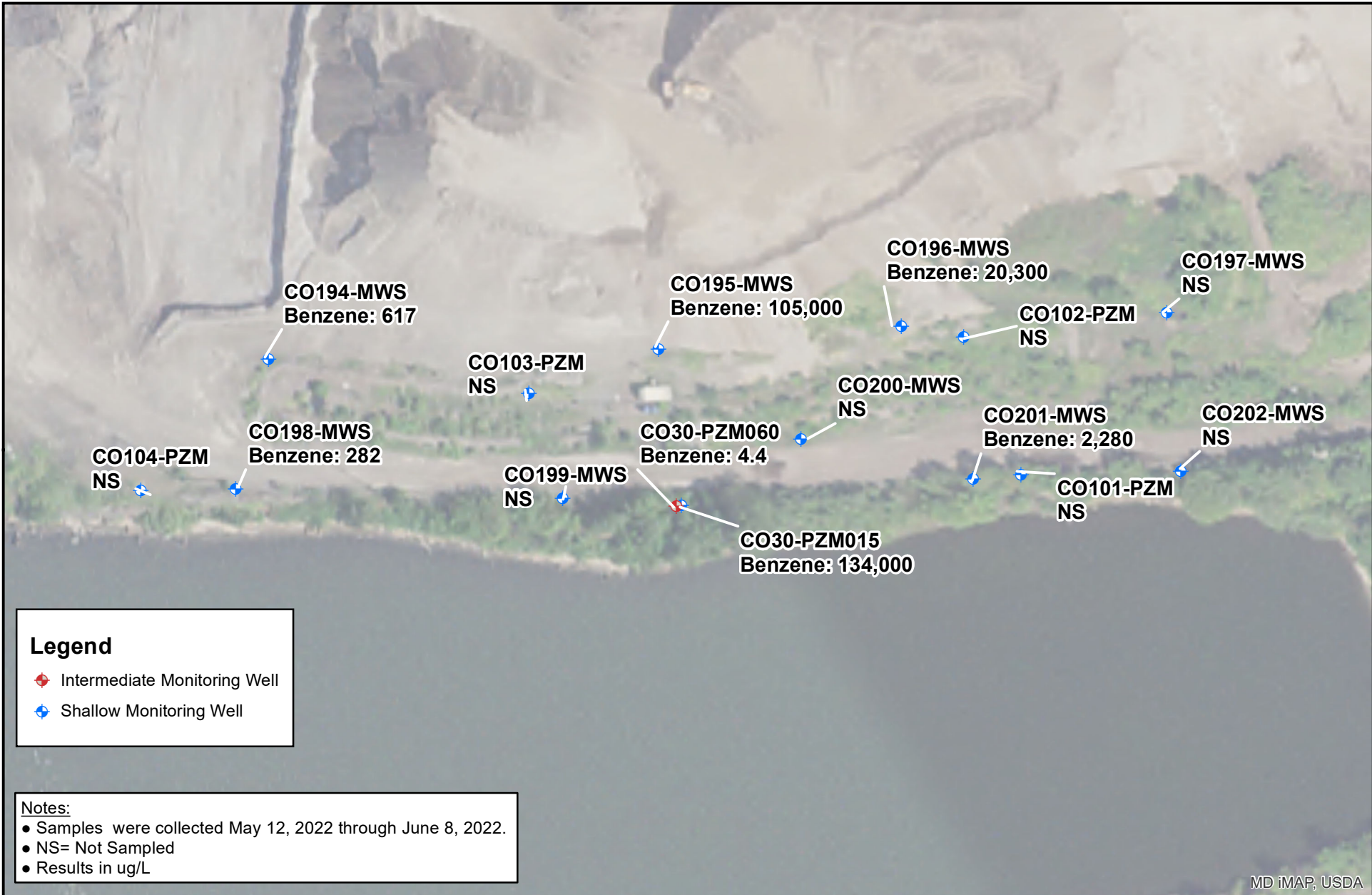
Former Coke Oven Area
Tradeport Atlantic

Sparrows Point, Maryland

Cumulative Hydrocarbon Recovery (lbs) Cell 3

January 3, 2023

**Figure
C3-2**



MD IMAP, USDA

Legend

- ◆ Intermediate Monitoring Well
- ◆ Shallow Monitoring Well

Notes:

- Samples were collected May 12, 2022 through June 8, 2022.
- NS= Not Sampled
- Results in ug/L

ARM Group LLC
Engineers and Scientists

1 inch = 100 feet

0 50 100 Feet

Former Coke Oven Area
Cell 3 Q2 Benzene
Concentrations
Date: 10/4/2023

**Figure
C3-3**



MD IMAP, USDA



ARM Group LLC
Engineers and Scientists

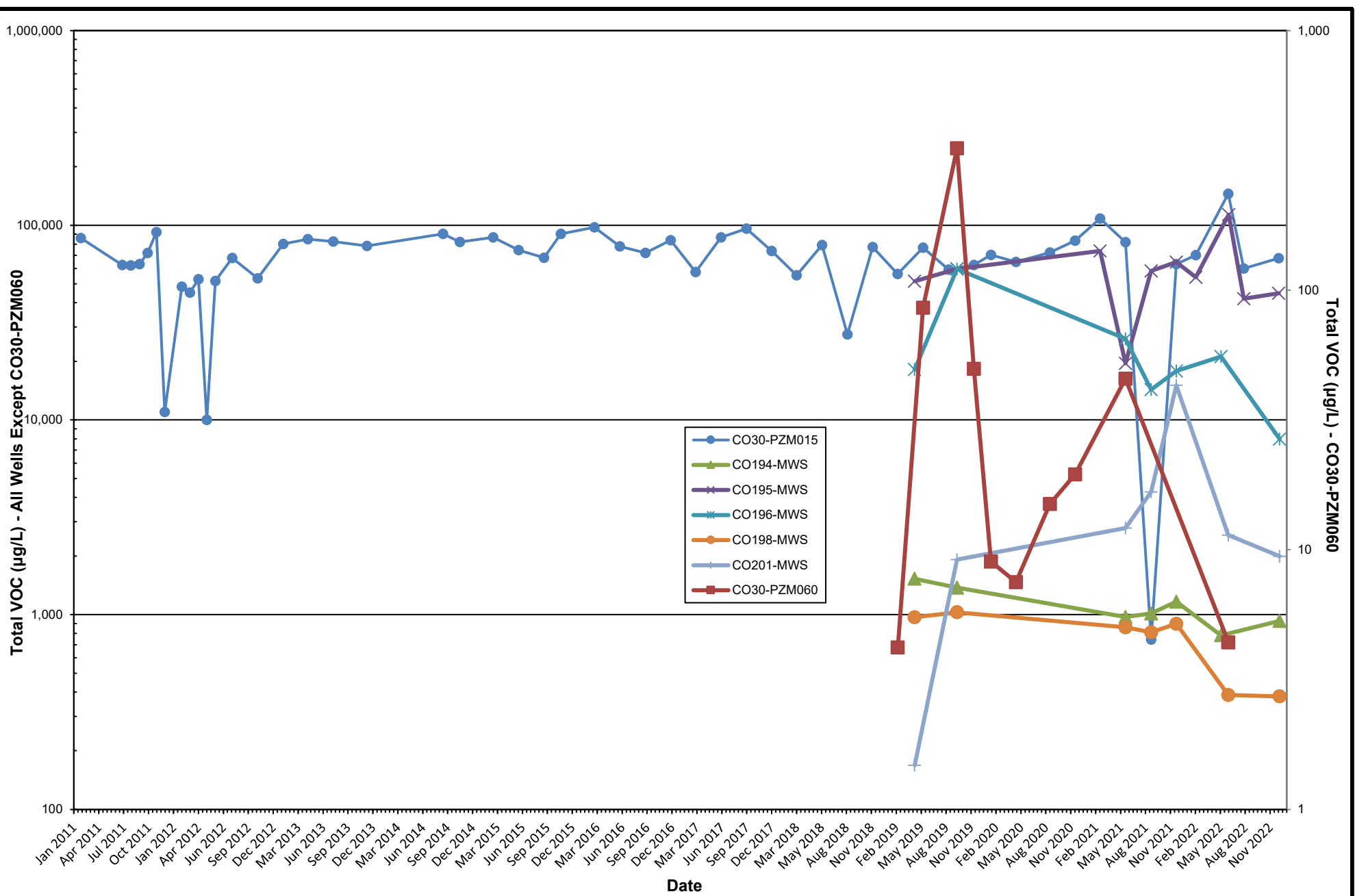
1 inch = 100 feet



Former Coke Oven Area
Cell 3 Q4 Benzene
Concentrations

Date: 10/4/2023

**Figure
C3-4**



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Former Coke Oven Area
Tradeport Atlantic

Sparrows Point, Maryland

**Total VOCs in Groundwater
Cell 3 Shallow Zone**

January 24, 2023

**Figure
C3-5**

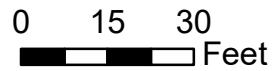


MD IMAP, USDA



ARM Group LLC
Engineers and Scientists

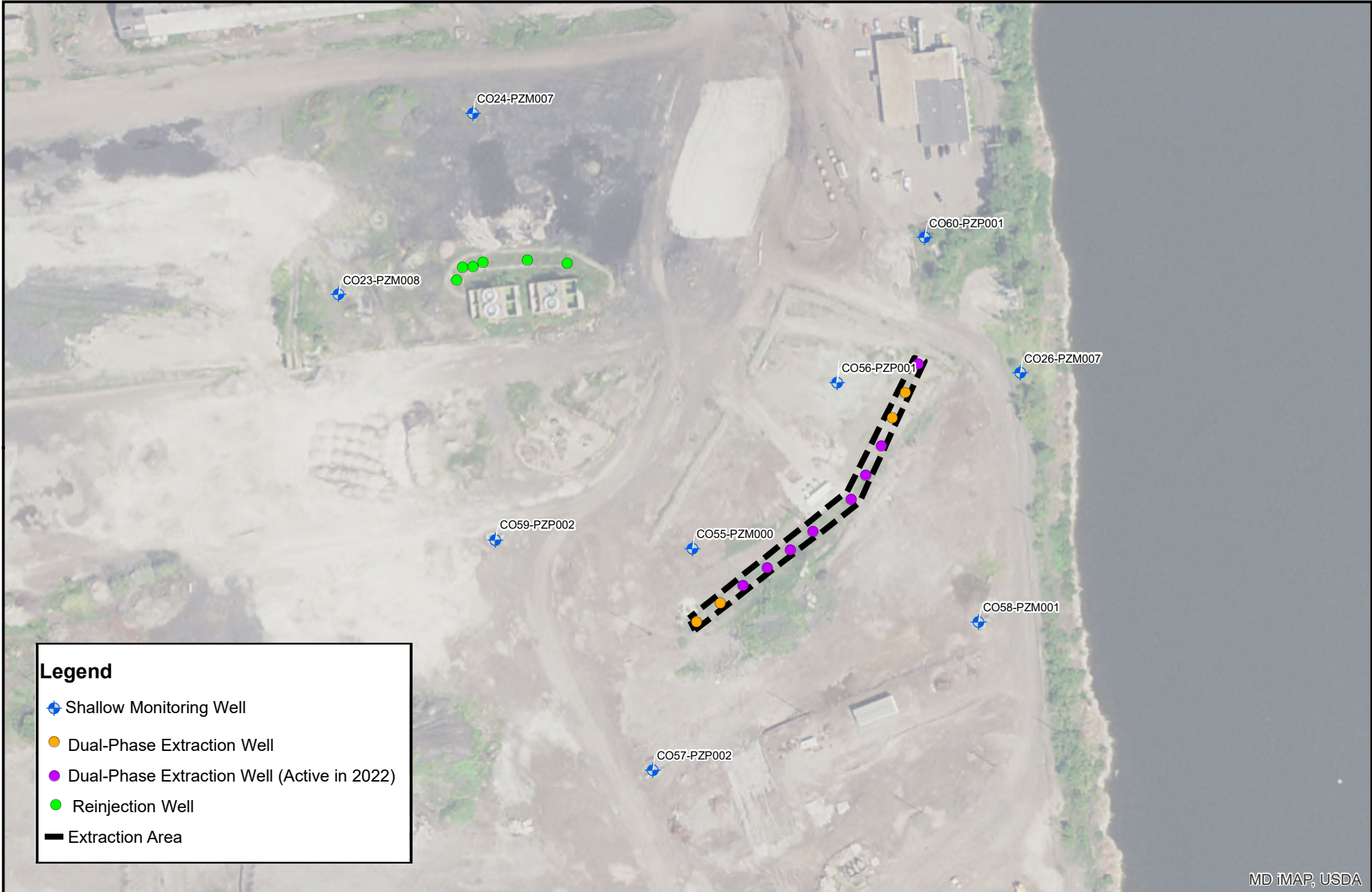
1 inch = 33 feet



Former Coke Oven Area
Cell 4 System Layout
DNAPL Recovery

Date: 2/22/2022

Figure
C4-1



MD IMAP, USDA

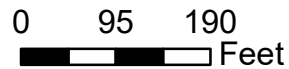
Legend

- Shallow Monitoring Well
- Dual-Phase Extraction Well
- Dual-Phase Extraction Well (Active in 2022)
- Reinjection Well
- Extraction Area



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Engineers and Scientists

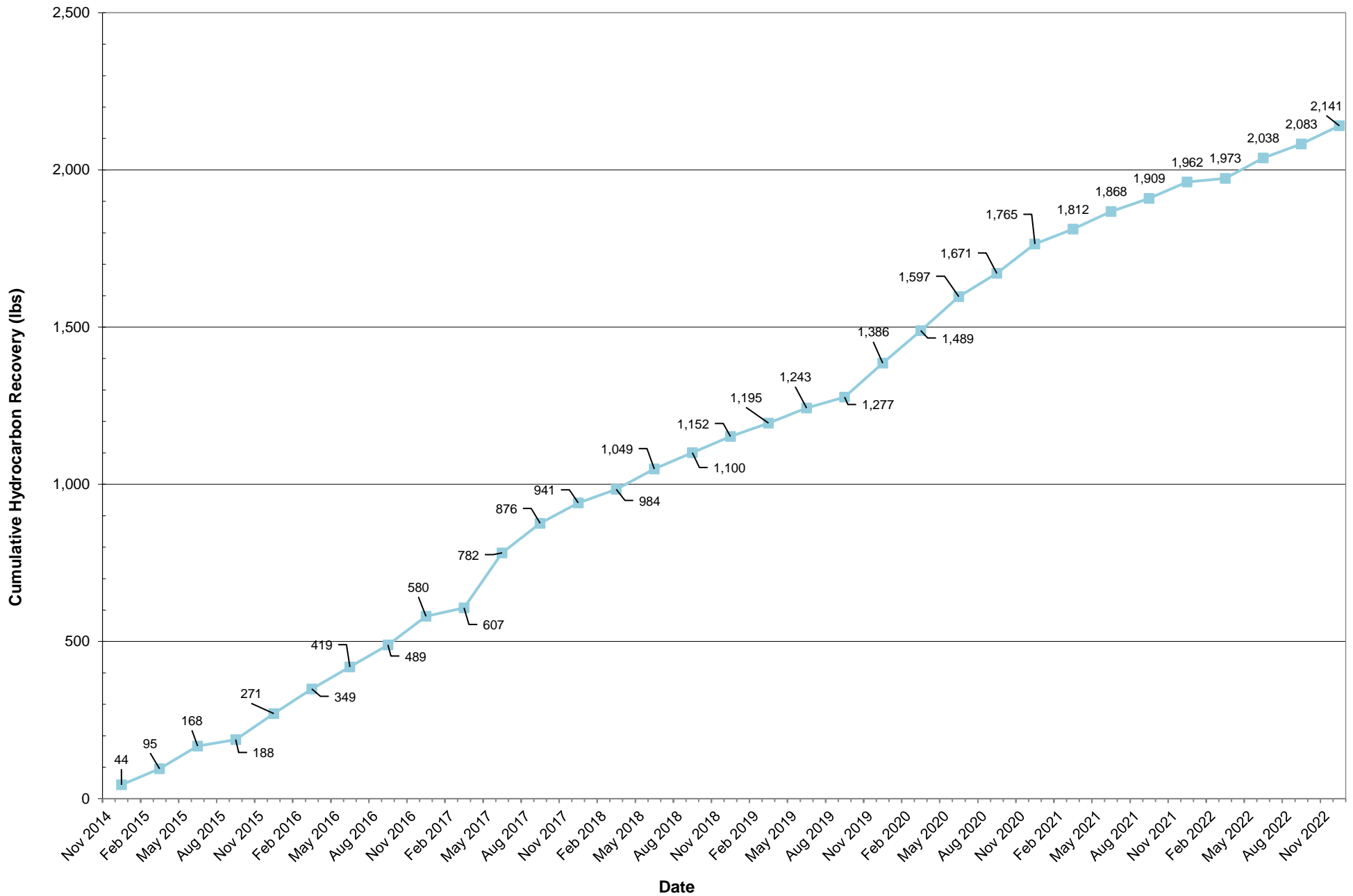
1 inch = 190 feet



Former Coke Oven Area
Cell 5 System Layout
DPE System

Date: 2/7/2022

**Figure
C5-1**



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Engineers and Scientists

Former Coke Oven Area
Tradepoint Atlantic

Sparrows Point, Maryland

Cumulative Hydrocarbon Recovery (lbs) Cell 5 - DPE System

January 4, 2023

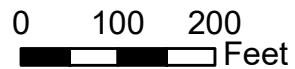
**Figure
C5-2**

IP:\Environment\Analytics\Group\Coke\Oven\GIS\COke\Oven\8:5\k111 (Cell 5).mxd



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area
Cell 5 Q1 Groundwater Elevation
Contours Shallow Zone

Date: 1/27/2023

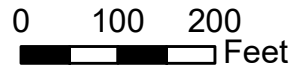
**Figure
C5-3**

IP:\E:\enviro\analyt\GIS\COke\Oven\8:5\k111 (Cell 5).mxd



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area
Cell 5 Q2 Groundwater Elevation
Contours Shallow Zone

Date: 1/27/2023

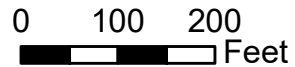
**Figure
C5-4**

IP:\Enviromental\GIS\COke\Drawn\GIS\COke\Drawn8:5:sk111 (Cell 5).rxd



ARM Group LLC
Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area
Cell 5 Q3 Groundwater Elevation
Contours Shallow Zone

Date: 1/27/2023

**Figure
C5-5**

IP:\Environment\Analytics\Group\Coke\Oven\GIS\COke\Oven8_5\sk111 (Cell 5).rxd



Notes:

- Water levels measured November 28, 2022
- Groundwater elevations in feet above mean sea level
- "NC" = Not Collected (due to no water, well blocked)

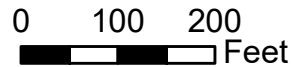
LEGEND

- Q4 Groundwater Elevation Contour
- ◆ Shallow Monitoring Well
- Dual-Phase Extraction Well
- Re-injection Well



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1 inch = 200 feet



Former Coke Oven Area
Cell 5 Q4 Groundwater Elevation
Contours Shallow Zone

Date: 1/27/2023

**Figure
C5-6**

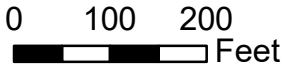


Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



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1 inch = 200 feet



Former Coke Oven Area Cell 5 Q1 Naphthalene Concentrations Shallow Zone

Date: 2/6/2023

Figure C5-7

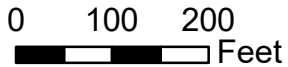


Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



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Engineers and Scientists

1 inch = 200 feet



Former Coke Oven Area
Cell 5 Q2 Naphthalene Concentrations
Shallow Zone

Date: 2/6/2023

Figure
C5-8



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Notes:

- Samples Collected August 3-4, 2022
- Results in ug/L
- NS = Not Sampled

Legend

- ◆ Shallow Monitoring Well
- Dual-Phase Extraction Well
- Reinjection Well

N

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1 inch = 200 feet

0 100 200 Feet

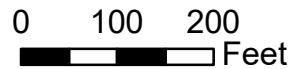
Former Coke Oven Area
Cell 5 Q3 Naphthalene Concentrations
Shallow Zone
Date: 2/6/2023

Figure
C5-9



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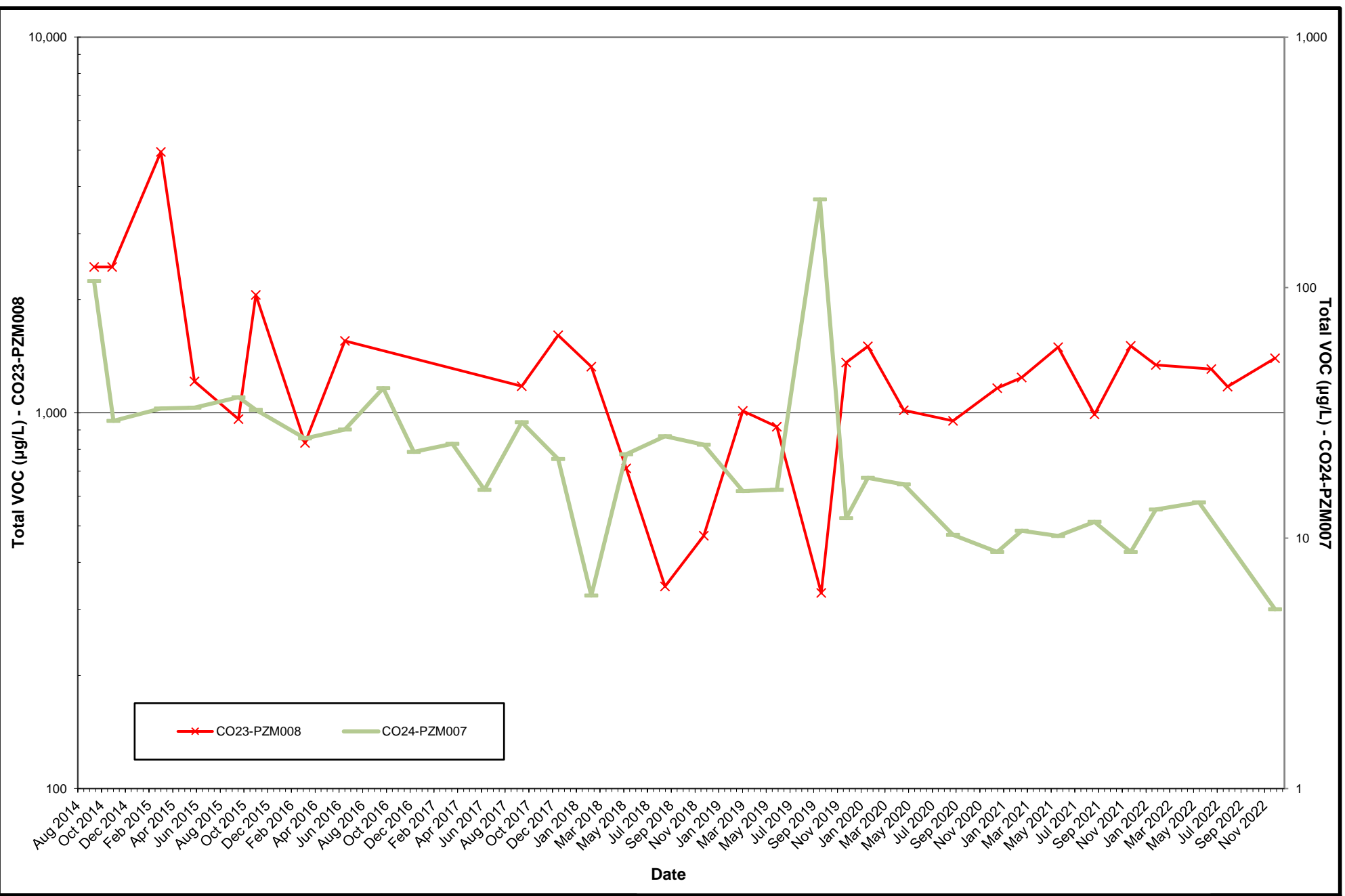
1 inch = 200 feet



Former Coke Oven Area Cell 5 Q4 Naphthalene Concentrations Shallow Zone

Date: 2/6/2023

Figure C5-10



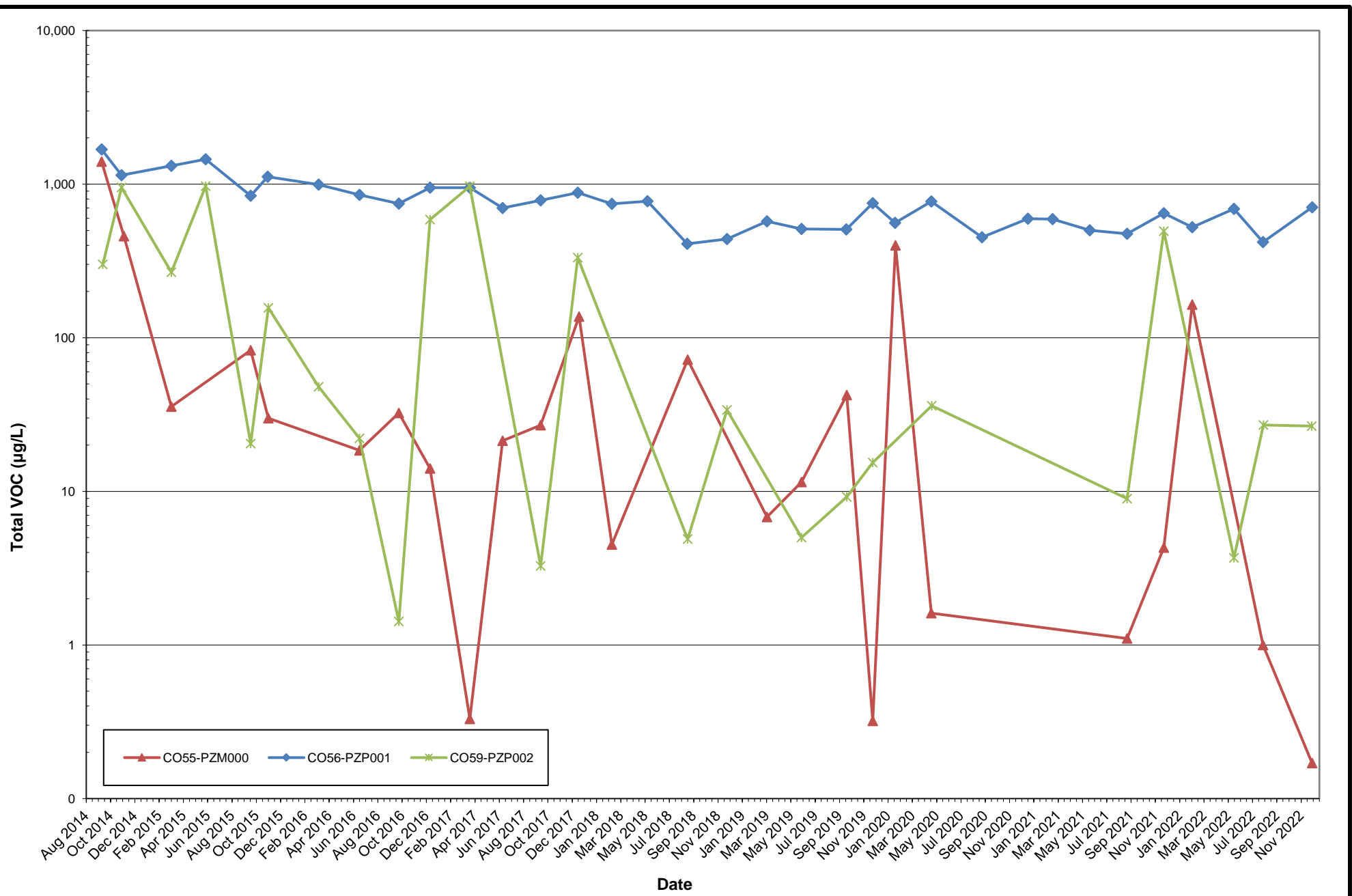
Former Coke Oven Area
Tradeport Atlantic

Sparrows Point, Maryland

Total VOCs in Groundwater
Cell 5 ReInjection-Area Monitoring Wells

January 24, 2023

**Figure
C5-11**



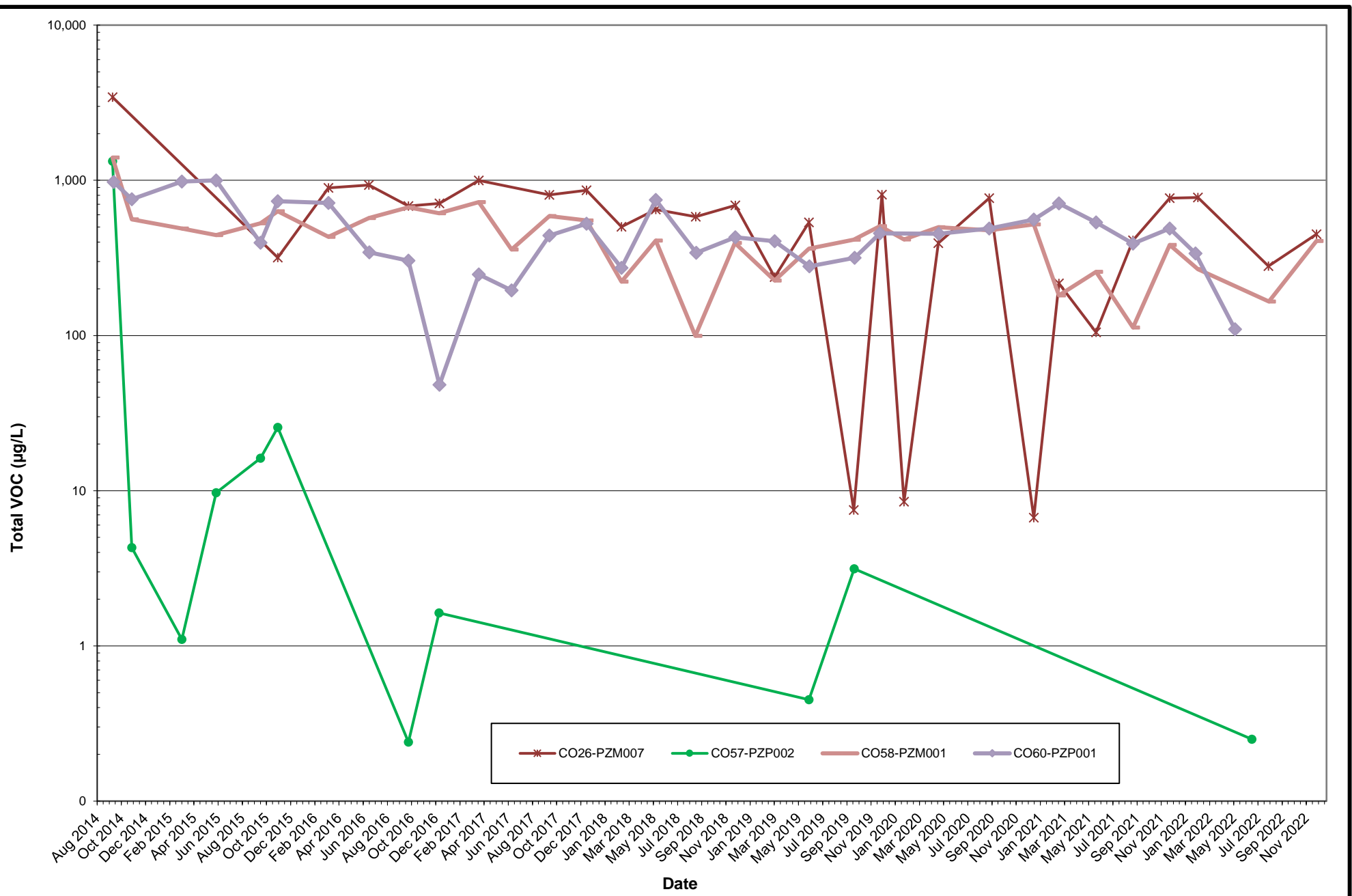
Former Coke Oven Area
Tradeport Atlantic

Sparrows Point, Maryland

Total VOCs in Groundwater Cell 5 Extraction-Area Monitoring Wells

January 24, 2023

**Figure
C5-12**



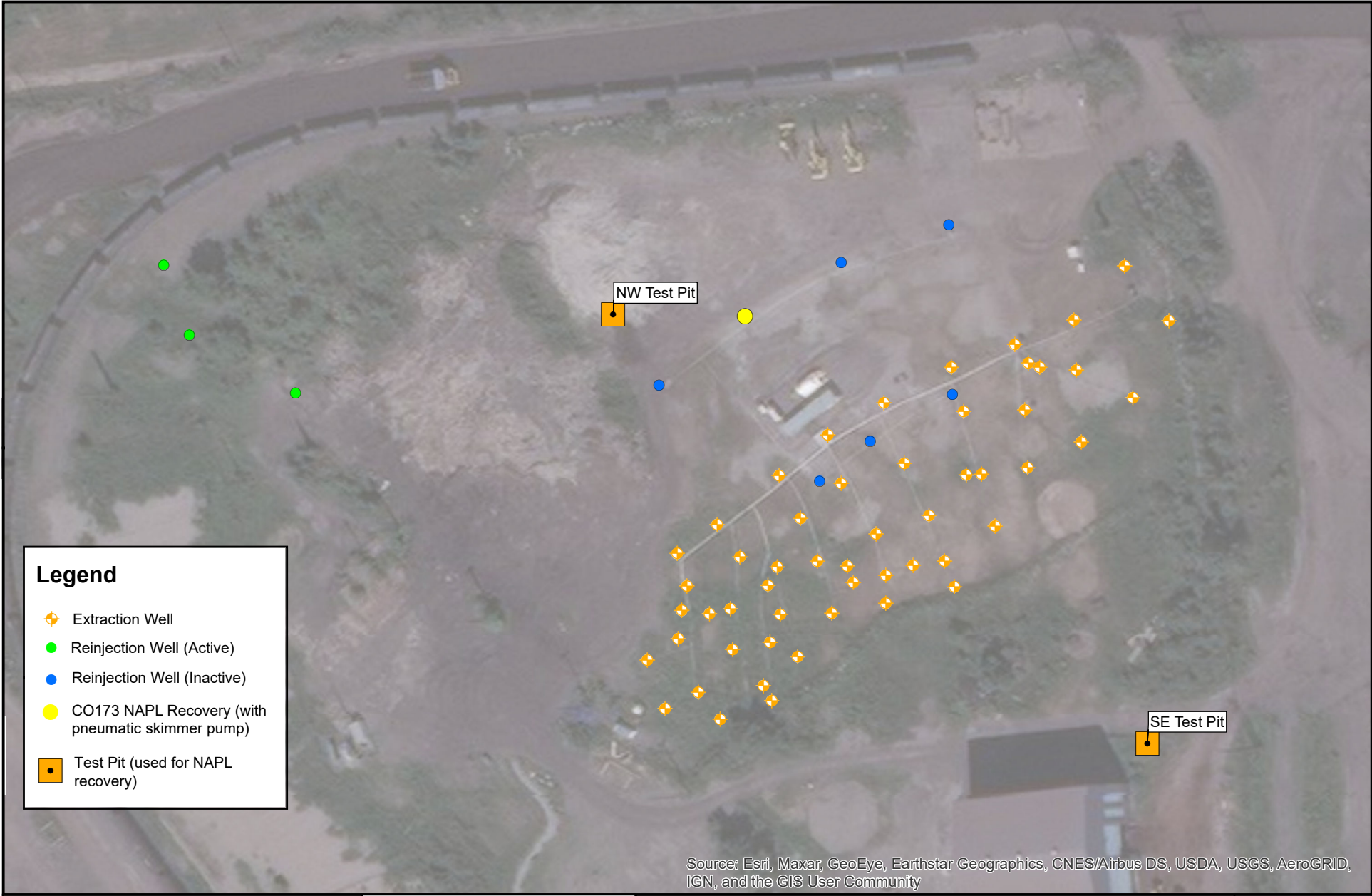
Former Coke Oven Area
Tradeport Atlantic

Sparrows Point, Maryland






Total VOCs in Groundwater Cell 5 Perimeter Monitoring Wells

January 24, 2023

**Figure
C5-13**



Legend

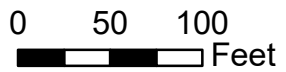
-  Extraction Well
-  Reinjection Well (Active)
-  Reinjection Well (Inactive)
-  CO173 NAPL Recovery (with pneumatic skimmer pump)
-  Test Pit (used for NAPL recovery)

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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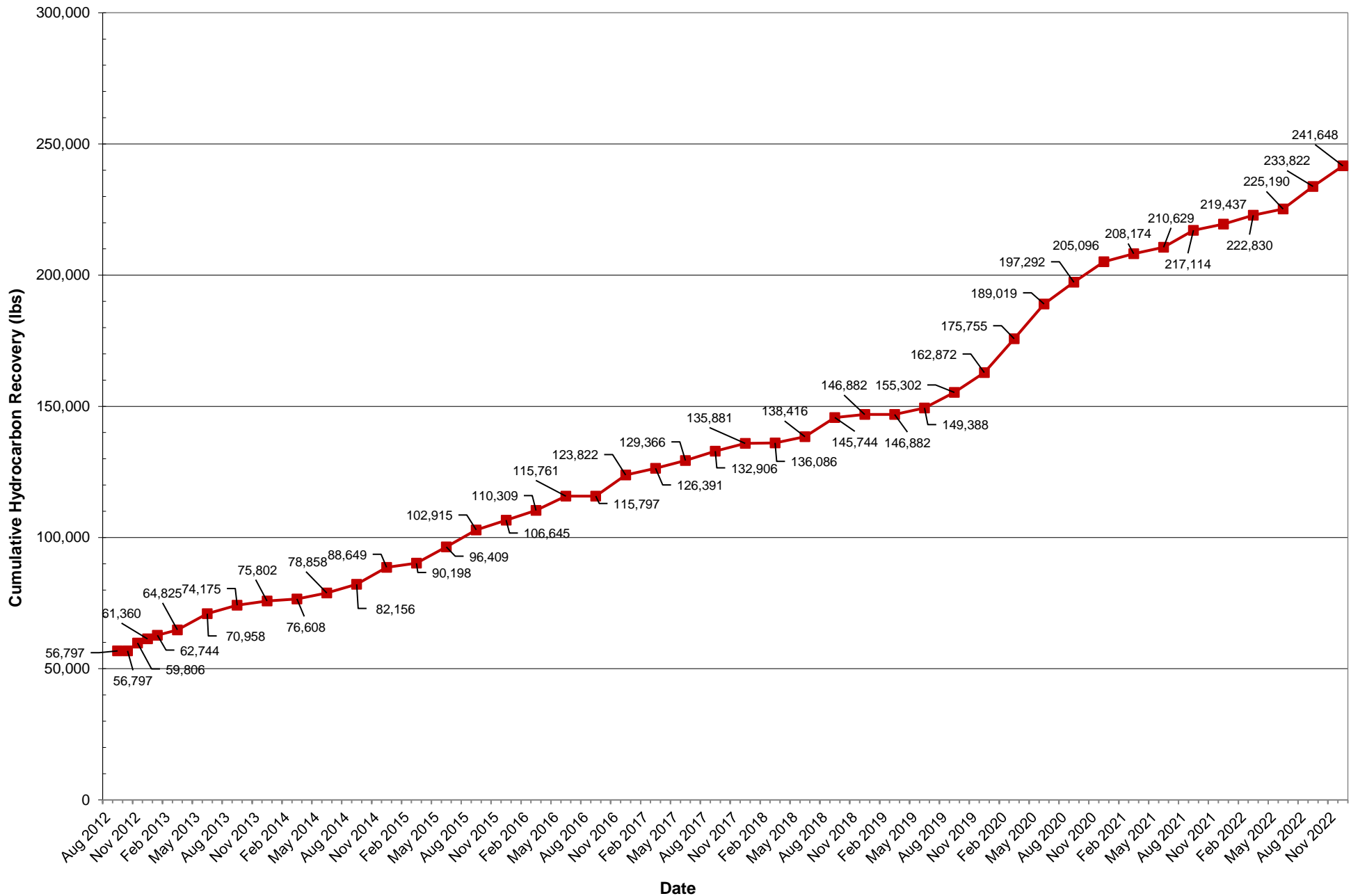
1 inch = 100 feet



Former Coke Oven Area
Cell 6 System Layout
MPE System and LNAPL Recovery

Date: 2/7/2022

**Figure
C6-1**



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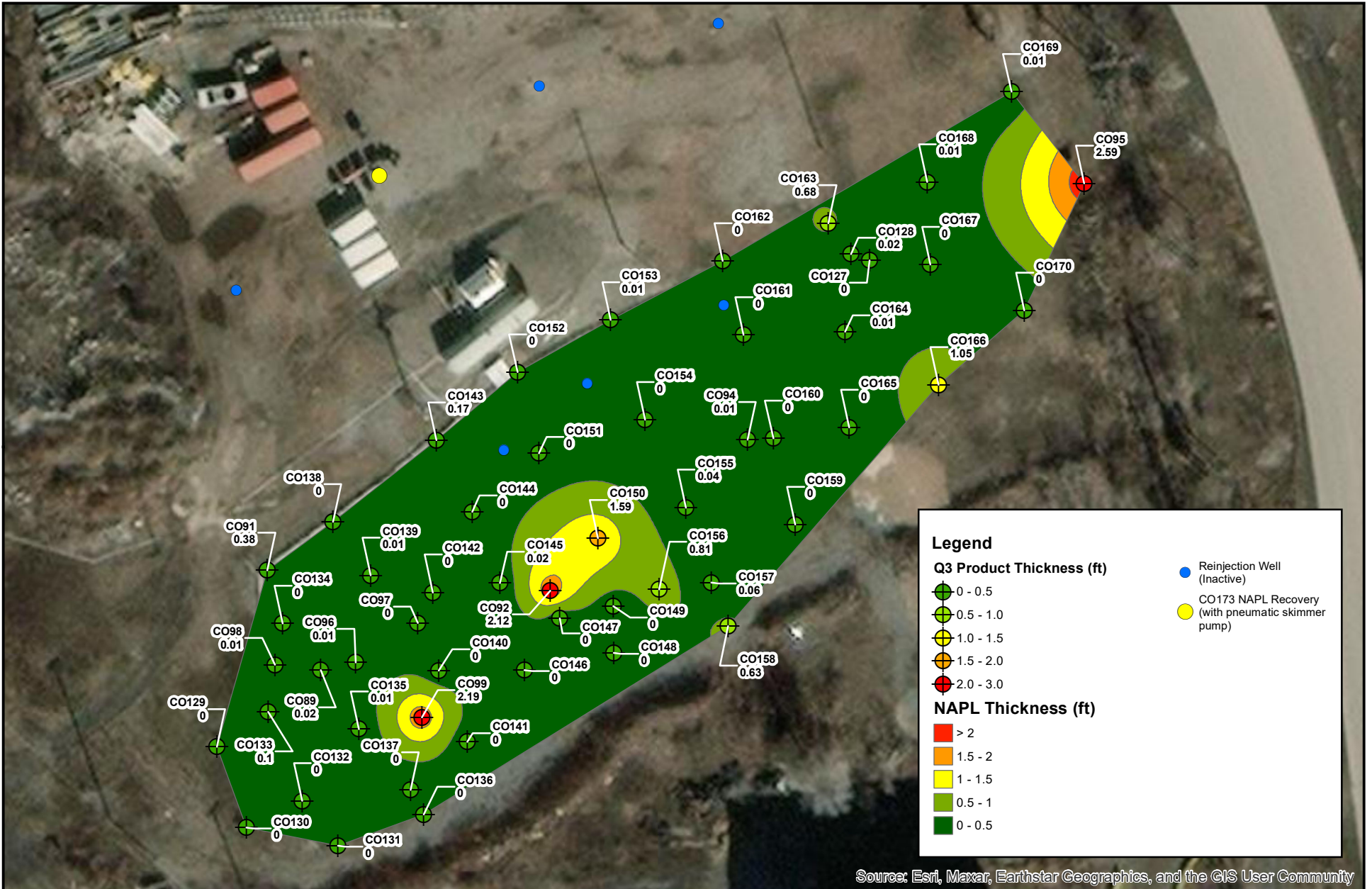
Former Coke Oven Area
Tradepoint Atlantic

Sparrows Point, Maryland

Cumulative Hydrocarbon Recovery (lbs) Cell 6

December 30, 2022

**Figure
C6-2**

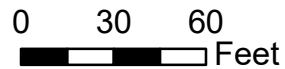


Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



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Engineers and Scientists

1 inch = 62 feet



Former Coke Oven Area
Cell 6 Extraction Wells
Q3 2022 Average Product Thickness

Date: 2/6/2023

Figure
C6-3

TABLES



Table C1-1: Summary of Operation
Cell 1: AS/SVE System in Former Benzol Processing Area

Cell 1 2022 Estimated Hydrocarbon Recovery

Parameter	Units	Q1 1/1 - 3/31	Q2 4/1 - 6/30	Q3 7/1 - 9/30	Q4 10/1 - 12/31	Total/Average 1/1 - 12/31
Flow Rate	SCFM	408	377	369	379	383
Average Concentrations	ug/L	17	10	3	1	8
Estimated Hydrocarbon Destruction/Removal Rate	pounds/hour	0.026	0.014	0.004	0.001	0.011
Total VGAC Operating Time	hours	2,160	2,008	1,829	1,822	7,819
Overall VGAC Operational Time	%	100.0%	91.9%	82.8%	82.5%	89.3%
Estimated Total Hydrocarbons Destroyed/Removed	pounds	55.1	28.4	6.5	2.3	92.3

Cell 1 Cumulative Summary of Estimated Hydrocarbon Recovery

August 3, 2010 - December 31, 2022

Parameter	Units	Quantity
Total VGAC Operating Time	hours	57,221
Overall VGAC Operational Time	%	52.6%
Estimated Total Hydrocarbons Destroyed/Removed	pounds	16,591
Estimated Hydrocarbon Destruction/Removal Rate	pounds/hour	0.2899

Table C1-2 - Cell 1 VGAC Influent Analytical Results

Month		January	February	March	April	May	June
Analyte (TO-15 Organics)	Units	1/4/2022	2/2/2022	3/1/2022	4/4/2022	5/3/2022	6/1/2022
Acetone	ug/L	ND	ND	ND	ND	ND	ND
tert-Amyl alcohol (TAA)	ug/L	ND	ND	ND	ND	ND	ND
tert-Amyl ethyl ether (TAEE)	ug/L	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether (TAME)	ug/L	ND	ND	ND	ND	ND	ND
Benzene	ug/L	37	5.4	5.3	ND	15.4	8.83
Bromobenzene	ug/L	ND	ND	ND	ND	ND	ND
Bromochloromethane	ug/L	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ug/L	ND	ND	ND	ND	ND	ND
Bromoform	ug/L	ND	ND	ND	ND	ND	ND
Bromomethane	ug/L	ND	ND	ND	ND	ND	ND
tert-Butanol (TBA)	ug/L	ND	ND	ND	2.41	ND	ND
2-Butanone (MEK)	ug/L	ND	ND	ND	ND	ND	ND
n-Butylbenzene	ug/L	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	ug/L	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	ug/L	ND	ND	ND	ND	ND	ND
Carbon disulfide	ug/L	ND	ND	ND	ND	ND	0.16
Carbon tetrachloride	ug/L	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
Chloroethane	ug/L	ND	ND	ND	ND	ND	ND
Chloroform	ug/L	ND	ND	ND	ND	ND	ND
Chloromethane	ug/L	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	ug/L	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ug/L	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane (EDB)	ug/L	ND	ND	ND	ND	ND	ND
Dibromomethane	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/L	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/L	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ug/L	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ug/L	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ug/L	ND	ND	ND	ND	ND	ND
Dichlorofluoromethane	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ug/L	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	ug/L	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	ug/L	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	ug/L	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	ND	ND
Diisopropyl ether (DIPE)	ug/L	ND	ND	ND	ND	ND	ND
Ethyl tert-butyl ether (ETBE)	ug/L	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ug/L	ND	ND	ND	ND	ND	ND
2-Hexanone	ug/L	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	ug/L	ND	ND	ND	ND	ND	ND
4-Isopropyltoluene	ug/L	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	ug/L	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ug/L	ND	ND	ND	ND	ND	ND
Methylene chloride	ug/L	ND	ND	ND	1.61	ND	ND
Naphthalene	ug/L	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/L	ND	ND	ND	ND	ND	ND
Styrene	ug/L	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ug/L	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ug/L	ND	ND	ND	ND	ND	ND
Toluene	ug/L	0.84	0.38	0.59	ND	1.04	0.36
1,2,3-Trichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ug/L	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ug/L	ND	ND	ND	ND	ND	ND
Trichloroethene	ug/L	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane (Freon 11)	ug/L	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ug/L	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ug/L	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	ug/L	ND	ND	ND	ND	ND	ND
Vinyl chloride	ug/L	ND	ND	ND	ND	ND	ND
o-Xylene	ug/L	ND	ND	ND	ND	ND	ND
m- & p-Xylenes	ug/L	ND	0.29	0.28	ND	0.16	0.12
Total Volatile Organics	ug/L	38	6	6	4	17	9

Notes:

BOLD = Analyte detected

ug/L = micro grams per liter

ND = Non-detect

Table C1-2 - Cell 1 VGAC Influent Analytical Results

Month		July	August	September	October	November	December
Analyte (TO-15 Organics)	Units	7/6/2022	8/1/2022	9/8/2022	10/12/2022	11/1/2022	12/1/2022
Acetone	ug/L	ND	ND	ND	ND	ND	ND
tert-Amyl alcohol (TAA)	ug/L	ND	ND	ND	ND	ND	ND
tert-Amyl ethyl ether (TAEE)	ug/L	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether (TAME)	ug/L	ND	ND	ND	ND	ND	ND
Benzene	ug/L	4.26	1.33	1.21	ND	1.54	0.81
Bromobenzene	ug/L	ND	ND	ND	ND	ND	ND
Bromochloromethane	ug/L	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ug/L	ND	ND	ND	ND	ND	ND
Bromoform	ug/L	ND	ND	ND	ND	ND	ND
Bromomethane	ug/L	ND	ND	ND	ND	ND	ND
tert-Butanol (TBA)	ug/L	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ug/L	ND	ND	ND	ND	ND	ND
n-Butylbenzene	ug/L	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	ug/L	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	ug/L	ND	ND	ND	ND	ND	ND
Carbon disulfide	ug/L	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ug/L	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
Chloroethane	ug/L	ND	ND	ND	ND	ND	ND
Chloroform	ug/L	ND	ND	ND	ND	ND	ND
Chloromethane	ug/L	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	ug/L	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ug/L	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane (EDB)	ug/L	ND	ND	ND	ND	ND	ND
Dibromomethane	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/L	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/L	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ug/L	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ug/L	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ug/L	ND	ND	ND	ND	ND	ND
Dichlorofluoromethane	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ug/L	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	ug/L	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	ug/L	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	ug/L	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	ND	ND
Diisopropyl ether (DIPE)	ug/L	ND	ND	ND	ND	ND	ND
Ethyl tert-butyl ether (ETBE)	ug/L	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ug/L	ND	ND	ND	ND	ND	ND
2-Hexanone	ug/L	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	ug/L	ND	ND	ND	ND	ND	ND
4-Isopropyltoluene	ug/L	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	ug/L	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ug/L	ND	ND	ND	ND	ND	ND
Methylene chloride	ug/L	ND	ND	ND	ND	ND	ND
Naphthalene	ug/L	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/L	ND	ND	ND	ND	ND	ND
Styrene	ug/L	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ug/L	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ug/L	ND	ND	ND	ND	ND	ND
Toluene	ug/L	0.38	0.13	0.19	ND	0.24	0.10
1,2,3-Trichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ug/L	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ug/L	ND	ND	ND	ND	ND	ND
Trichloroethene	ug/L	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane (Freon 11)	ug/L	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ug/L	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ug/L	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	ug/L	ND	ND	ND	ND	ND	ND
Vinyl chloride	ug/L	ND	ND	ND	ND	ND	ND
o-Xylene	ug/L	ND	ND	ND	ND	ND	ND
m- & p-Xylenes	ug/L	ND	ND	0.15	ND	ND	ND
Total Volatile Organics	ug/L	5	1	2	0	2	1

Notes:

BOLD = Analyte detected

ug/L = micro grams per liter

ND = Non-detect

**Table C1-3
Cell 1 Groundwater Analytical Results**

Sample ID			CO93-PZM				CO190-MWS				CO191-MWS
Quarter			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q2
Event Date			2/9/2022	6/9/2022	8/12/2022	12/19/2022	2/10/2022	6/9/2022	8/12/2022	12/19/2022	6/9/2022
Volatile Organic Compound	Units	PAL									
Benzene	µg/L	5	156,000	173,000	180,000	180,000	645,000	107,000	2,200	90,000	104,000
Ethylbenzene	µg/L	700	1,060	1,250	810	1,500	38.9	7.1	<i>10 U</i>	<i>500 U</i>	235
Toluene	µg/L	1,000	44,200	54,100	31,000	55,000	35,200	6,950	21	5,100	12,400
Xylenes	µg/L	10,000	10,700	14,200	8,800	17,000	1,040	186	<i>20 U</i>	<i>1,000 U</i>	2,480
Total Volatile Organics	µg/L		211,960	242,550	220,610	253,500	681,279	114,143	2,221	95,100	119,115
Semi-Volatile Organic Compound	Units	PAL									
Naphthalene	µg/L	0.12	1,660	1,870	2,000	2,200	173	25.5	<i>20 U</i>	<i>1,000 U</i>	285

Notes:

Bold = Analyte Detected

Red = Exceedence of groundwater Project Action Limit (PAL)

µg/L = micrograms per liter

U = Analyte not detected above reporting limit

**Table C1-4
Cell 1 Monitoring Well Groundwater Elevations**

Well ID	Top of PVC Elevation (ft)	Aquifer	Well Depth from Ground Surface (ft)	2/1/2022		5/3/2022		8/2/2022		11/29/2022	
				Depth to Groundwater	Groundwater Elevation (ft)	Depth to Groundwater	Groundwater Elevation (ft)	Depth to Groundwater	Groundwater Elevation (ft)	Depth to Groundwater	Groundwater Elevation (ft)
CO93-PZM	12.12	Shallow	20.00	10.87	1.25	10.47	1.65	10.88	1.24	10.89	1.23
CO190-MWS	15.45	Shallow	20.00	14.94	0.51	14.24	1.21	14.42	1.03	14.50	0.95
CO191-MWS	13.48	Shallow	20.00	13.00	0.48	12.60	0.88	12.73	0.75	12.90	0.58

Table C2-1: Summary of Operation
Cell 2: Groundwater Pump Treat System in Former Coal Basin Area

Parameter	Units	Q1 1/1 - 3/31	Q2 4/1 - 6/30	Q3 7/1 - 9/30	Q4 10/1 - 12/31	Total 1/1 - 12/31
Total Discharge	gallons	459,055	356,455	OFFLINE	OFFLINE	815,510
Total Operating Time	hours	1,826	411	OFFLINE	OFFLINE	2,237
Overall Operational Time	%	84.5%	18.8%	OFFLINE	OFFLINE	51.7%
Extracted Total Concentrations	lbs/gal	2.25E-03	2.17E-03	OFFLINE	OFFLINE	4.42E-03
Effluent Total Concentrations	lbs/gal	6.41E-07	7.93E-07	OFFLINE	OFFLINE	1.43E-06
Extracted Hydrocarbons	lbs	1,034	773	OFFLINE	OFFLINE	1,807
Effluent Hydrocarbons	lbs	0.29	0.28	OFFLINE	OFFLINE	0.58
Total Hydrocarbons Removed	lbs	1,034	773	OFFLINE	OFFLINE	1,807

**Table C2-2
Cell 2 Monitoring Well Construction Information**

Monitoring Well Designation	Monitoring Well Temporary Identification	Installation Method	Northing	Easting	Top of Casing Elevation	Protection Cover Type	Well Total Depth	Riser Length	Screen Length
CO27-PZM012	none	Hollow Stem Auger	563239.965	1454916.917	5.12	Unknown	15.00	5.00	10.00
CO27-PZM046	none	Hollow Stem Auger	563239.958	1454913.372	5.17	Unknown	49.00	39.00	10.00
CO28-PZM010	none	Unknown	562891.927	1454280.619	12.34	Unknown	Unknown	Unknown	Unknown
CO28-PZM048	none	Hollow Stem Auger	562888.758	1454283.654	12.69	Steel Riser	58.00	48.00	10.00
CO36-PZM008	Cell 2 - MW1 (S)	Hollow Stem Auger	563212.310	1454571.760	6.94	Steel Riser	15.00	5.00	10.00
CO36-PZM043	Cell 2 - MW8 (I)	Hollow Stem Auger	563214.490	1454578.370	6.92	Steel Riser	50.00	30.00	20.00
CO37-PZM003	Cell 2 - MW2 (S)	Hollow Stem Auger	563268.520	1455158.690	12.34	Steel Riser	15.00	5.00	10.00
CO37-PZM038	Cell 2 - MW9 (I)	Hollow Stem Auger	563268.500	1455154.680	12.12	Steel Riser	50.00	30.00	20.00
CO38-PZM006	Cell 2 - MW3 (S)	Hollow Stem Auger	563078.800	1454743.790	6.75	Steel Riser	13.00	3.00	10.00
CO38-PZM043	Cell 2 - MW10 (I)	Hollow Stem Auger	563078.330	1454737.750	6.65	Steel Riser	50.00	30.00	20.00
CO39-PZM007	Cell 2 - MW4 (S)	Hollow Stem Auger	563141.660	1455095.700	7.75	Steel Riser	15.00	5.00	10.00
CO39-PZM042	Cell 2 - MW11 (I)	Hollow Stem Auger	563140.070	1455089.800	7.91	Steel Riser	50.00	30.00	20.00
CO40-PZM008	Cell 2 - MW5 (S)	Hollow Stem Auger	563039.410	1455081.700	7.47	Steel Riser	15.00	5.00	10.00
CO41-PZM001	Cell 2 - MW6 (S)	Hollow Stem Auger	562873.180	1454953.000	13.57	Steel Riser	15.00	5.00	10.00
CO41-PZM036	Cell 2 - MW12 (I)	Hollow Stem Auger	562865.340	1454950.750	13.60	Steel Riser	50.00	30.00	20.00
CO42-PZM004	Cell 2 - MW7 (S)	Hollow Stem Auger	563177.720	1455458.510	10.83	Steel Riser	15.00	5.00	10.00
CO179-MWS	COM-MWS	Hollow Stem Auger	563262.590	1455064.510	8.11	Steel Riser	15.00	5.00	10.00
CO180-MWS	CON-MWS	Hollow Stem Auger	563190.140	1454350.590	12.01	Steel Riser	15.00	5.00	10.00
CO180-MWI	CON-MWI	Hollow Stem Auger	563192.150	1454354.470	11.99	Steel Riser	50.00	30.00	20.00
CO181-MWS	COO-MWS	Hollow Stem Auger	563024.250	1454318.340	12.70	Steel Riser	15.00	5.00	10.00
CO181-MWI	COO-MWI	Hollow Stem Auger	563028.380	1454319.030	12.68	Steel Riser	50.00	30.00	20.00
CO182-MWI	COP-MWI	Hollow Stem Auger	563127.660	1454935.030	7.53	Steel Riser	50.00	30.00	20.00
CO186-MWS	COT-MWS	Hollow Stem Auger	562911.800	1455128.850	11.74	Steel Riser	20.00	5.00	15.00
CO209-MWS	none	Hollow Stem Auger	562600.385	1453757.934	10.70	Steel Riser	25.00	15.00	10.00
CO209-MWI	none	Hollow Stem Auger	562605.794	1453757.191	10.43	Steel Riser	50.00	40.00	10.00
GD01-MWI	none	Hollow Stem Auger	563597.259	1454233.229	7.30	Steel Riser	50.00	40.00	10.00
GD02-MWI	none	Hollow Stem Auger	563649.399	1454827.562	8.89	Steel Riser	50.00	40.00	10.00

**Table C2-3
Cell 2 Monitoring Well Groundwater Elevations**

Well ID	Top of PVC Elevation (ft)	Aquifer	Well Depth from Ground Surface (ft)	2/1/2022			5/3/2022			8/1/2022			11/29/2022		
				Depth to Groundwater	Groundwater Elevation (ft)	NAPL Thickness (ft)	Depth to Groundwater	Groundwater Elevation (ft)	NAPL Thickness (ft)	Depth to Groundwater	Groundwater Elevation (ft)	NAPL Thickness (ft)	Depth to Groundwater	Groundwater Elevation (ft)	NAPL Thickness (ft)
CO03-PZM005	13.53	S	17.00	4.93	8.6	--	4.96	8.57	--	6.59	6.94	--	5.99	7.54	--
CO27-PZM012	5.12	S	17.00	5.03	0.09	--	4.45	0.67	--	4.37	0.75	--	4.76	0.36	--
CO27-PZM046	5.17	I	50.00	8.60	-3.43	--	6.69	-1.52	--	6.80	-1.63	--	7.17	-2.00	--
CO28-PZM010	12.34	S	22.00	12.41	-0.07	--	11.66	0.68	--	11.78	0.56	--	12.11	0.23	--
CO28-PZM048	12.69	I	56.00	13.00	-0.31	--	12.12	0.57	--	12.21	0.48	--	12.48	0.21	--
CO36-PZM008	6.94	S	15.00	7.14	-0.20	--	6.39	0.55	--	6.48	0.46	--	6.82	0.12	--
CO36-PZM043	6.92	I	50.00	7.83	-0.91	--	6.98	-0.06	--	7.00	-0.08	--	7.32	-0.40	--
CO37-PZM003	12.34	S	15.00	10.33	2.01	0.19	10.95	1.39	0.88	11.55	0.79	1.45	11.70	0.64	--
CO37-PZM038	12.12	I	50.00	12.53	-0.41	--	12.05	0.07	--	12.34	-0.22	--	12.55	-0.43	--
CO38-PZM006	6.75	S	13.00	6.73	0.02	--	6.05	0.7	--	6.88	-0.13	--	6.50	0.25	--
CO38-PZM043	6.65	I	50.00	7.63	-0.98	--	6.82	-0.17	--	6.20	0.45	--	7.17	-0.52	--
CO39-PZM007	7.75	S	15.00	6.96	0.79	--	6.99	0.76	--	7.41	0.34	--	7.25	0.50	--
CO39-PZM042	7.91	I	50.00	5.78	2.13	--	8.11	-0.2	--	8.18	-0.27	--	8.41	-0.50	--
CO40-PZM008	7.47	S	15.00	7.12	0.35	--	6.94	0.53	--	7.20	0.27	--	7.29	0.18	--
CO41-PZM001	13.57	S	15.00	13.06	0.51	--	12.85	0.72	--	13.61	-0.04	--	13.16	0.41	--
CO41-PZM036	13.60	I	50.00	14.18	-0.58	--	13.52	0.08	--	13.04	0.56	--	13.84	-0.24	--
CO42-PZM004	10.83	S	15.00	7.26	3.57	--	6.90	3.93	--	8.61	2.22	--	8.50	2.33	--
CO121-PZM	11.87	S	14.00	11.42	0.45	--	10.85	1.02	--	11.30	0.57	--	11.34	0.53	--
CO177-MWS	6.62	S	15.00	6.65	-0.03	--	5.78	0.84	--	5.95	0.67	--	6.36	0.26	--
CO177-MWI	6.83	I	50.00	9.73	-2.90	--	8.50	-1.67	--	8.34	-1.51	--	8.70	-1.87	--
CO178-MWI	7.56	I	50.00	9.66	-2.10	--	8.44	-0.88	--	8.46	-0.90	--	8.74	-1.18	--
CO179-MWS	8.11	S	15.00	8.10	0.01	0.15	7.95	0.16	0.75	7.85	0.26	0.25	7.65	0.46	--
CO179-MWI	7.43	I	50.00	10.45	-3.02	--	9.25	-1.82	--	9.11	-1.68	--	9.47	-2.04	--
CO180-MWS	12.01	S	15.00	12.30	-0.29	--	11.29	0.72	--	11.38	0.63	--	11.74	0.27	--
CO180-MWI	11.99	I	50.00	12.18	-0.19	--	11.25	0.74	--	11.35	0.64	--	11.68	0.31	--
CO181-MWS	12.70	S	15.00	12.86	-0.16	--	12.03	0.67	--	12.16	0.54	--	12.50	0.20	--
CO181-MWI	12.68	I	50.00	12.91	-0.23	--	11.93	0.75	--	12.05	0.63	--	12.40	0.28	--
CO182-MWI	7.53	I	50.00	8.52	-0.99	--	7.76	-0.23	--	7.81	-0.28	--	8.05	-0.52	--
CO184-MWI	11.65	I	37.00	12.17	-0.52	TRACE	11.04	0.61	0.10	11.17	0.48	--	11.43	0.22	--
CO186-MWS	11.74	S	20.00	11.40	0.34	--	10.15	1.59	--	11.27	0.47	--	11.38	0.36	--
CO188-MWI	12.20	I	50.00	12.82	-0.62	--	12.16	0.04	--	12.24	-0.04	--	12.61	-0.41	--
CO209-MWS	10.70	S	25.00	11.02	-0.32	--	10.24	0.46	--	10.23	0.47	--	10.57	0.13	--
CO209-MWI	10.43	I	50.00	11.19	-0.76	--	10.12	0.31	--	10.03	0.40	--	10.08	0.35	--
GD01-MWI	7.30	I	50.00	35.02	-27.72	--	35.58	-28.28	--	34.99	-27.69	--	35.90	-28.60	--
GD02-MWI	8.89	I	50.00	21.24	-12.35	--	20.27	-11.38	--	20.11	-11.22	--	20.66	-11.77	--

Notes:
I = Intermediate zone well
S = Water table well
NAPL = Non-aqueous phase liquid
-- = NAPL not observed

2/1/22 - CO37-PZM003 not sampled due to 0.19' of NAPL.
5/3/22 - CO37-PZM003 not sampled due to 0.88' of NAPL. The well was redeveloped on 5/4/22 and a groundwater sample was collected on 6/8/22 when only trace NAPL was observed.
8/1/22 - CO37-PZM003 not sampled due to 1.45' of NAPL.
11/29/22 - CO37-PZM003 not sampled due to sorbent sock in well.

**Table C2-4
Cell 2 Groundwater Analytical Results**

Sample ID			CO27-PZM012				CO28-PZM010	CO37-PZM003
Quarter			Q1	Q2	Q3	Q4	Q2	Q2
Event Date			2/7/2022	6/29/2022	8/10/2022	12/7/2022	6/22/2022	6/8/2022
Volatile Organic Compound	Units	PAL						
Benzene	µg/L	5	11,000	13,000	8,700	12,000	15	7,050
Ethylbenzene	µg/L	700	116	180	100	160	<i>0.5 U</i>	125
Toluene	µg/L	1000	3,080	5,200	3,200	4,600	0.58	2,840
Xylenes	µg/L	10000	1,000	1,400	880	1,400	<i>1 U</i>	1,410
Total Volatile Organics	µg/L		15,196	19,780	12,880	18,160	16	11,425
Semi-Volatile Organic Compound	Units	PAL						
Naphthalene	µg/L	0.12	645	870	820	1,100	0.36	1,050

Sample ID			CO27-PZM046				CO37-PZM038			
Quarter			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Event Date			2/7/2022	6/29/2022	8/10/2022	12/7/2022	2/8/2022	6/8/2022	8/11/2022	12/17/2022
Volatile Organic Compound	Units	PAL								
Benzene	µg/L	5	19,800	17,000	13,000	12,000	33,700	19,100	16,000	11,000
Ethylbenzene	µg/L	700	263	240	190	160	257	249	240	220
Toluene	µg/L	1000	7,000	6,800	5,600	4,400	17,600	9,480	7,800	6,500
Xylenes	µg/L	10000	1,810	1,800	1,600	1,400	2,130	1,970	2,000	1,900
Total Volatile Organics	µg/L		28,873	25,840	20,390	17,960	53,687	30,799	26,040	19,620
Semi-Volatile Organic Compound	Units	PAL								
Naphthalene	µg/L	0.12	4,460	950	1,200	930	1,560	954	1,300	1,300

Notes:

Bold = Analyte Detected

Red = Exceedance of groundwater Project Action Limit (PAL)

µg/L = micrograms per liter

U = Analyte not detected above reporting limit

NS = Not Sampled

**Table C2-4
Cell 2 Groundwater Analytical Results**

Sample ID			CO36-PZM008				CO38-PZM006			
Quarter			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Event Date			2/3/2022	5/9/2022	8/9/2022	12/7/2022	2/7/2022	5/9/2022	8/10/2022	12/7/2022
Volatile Organic Compound	Units	PAL								
Benzene	µg/L	5	19,000	5,360	9,900	9,100	5,230	9,100	3,400	3,300
Ethylbenzene	µg/L	700	17.1	17.9	53	36	56.4	52.4	38	44
Toluene	µg/L	1000	1,510	1,350	2,700	2,000	1,210	936	400	630
Xylenes	µg/L	10000	672	398	890	740	464	409	260	320
Total Volatile Organics	µg/L		21,199	7,126	13,543	11,876	6,960	10,497	4,098	4,294
Semi-Volatile Organic Compound	Units	PAL								
Naphthalene	µg/L	0.12	233	226	560	420	1,180	1,570	890	800

Sample ID			CO36-PZM043				CO38-PZM043			
Quarter			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Event Date			2/3/2022	5/20/2022	8/9/2022	12/6/2022	2/7/2022	5/9/2022	8/9/2022	12/7/2022
Volatile Organic Compound	Units	PAL								
Benzene	µg/L	5	55,700	15,100	20,000	16,000	<i>1 U</i>	1	2	<i>0.5 U</i>
Ethylbenzene	µg/L	700	58.2	40.7	51	46	<i>1 U</i>	<i>1 U</i>	<i>0.5 U</i>	<i>0.5 U</i>
Toluene	µg/L	1000	8,150	2,050	2,800	2,200	<i>1 U</i>	<i>1 U</i>	0.89	<i>0.75 U</i>
Xylenes	µg/L	10000	838	612	740	640	2.1	<i>3 U</i>	0.82	1
Total Volatile Organics	µg/L		64,746	17,803	23,591	18,886	2.2	1	3.71	1
Semi-Volatile Organic Compound	Units	PAL								
Naphthalene	µg/L	0.12	433	530	720	560	<i>2 U</i>	<i>4 U</i>	<i>1 U</i>	0.68

Notes:

- Bold = Analyte Detected
- Red = Exceedance of groundwater Project Action Limit (PAL)
- µg/L = micrograms per liter
- U = Analyte not detected above reporting limit
- NS = Not Sampled

**Table C2-4
Cell 2 Groundwater Analytical Results**

Sample ID			CO39-PZM007				CO41-PZM001			
Quarter			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Event Date			2/7/2022	5/9/2022	8/10/2022	12/8/2022	2/8/2022	5/10/2022	8/9/2022	12/8/2022
Volatile Organic Compound	Units	PAL								
Benzene	µg/L	5	891	486	1,000	1,300	2,130	1,880	18,000	29,000
Ethylbenzene	µg/L	700	3.8	<i>5 U</i>	4.6	7	63.2	53.3	660	640
Toluene	µg/L	1000	123	36.8	140	160	1,230	1,110	11,000	13,000
Xylenes	µg/L	10000	35	8.7	35	52	524	421	6,800	6,600
Total Volatile Organics	µg/L		1,053	532	1,180	1,519	3,947	3,464	36,460	49,240

Semi-Volatile Organic Compound	Units	PAL								
Naphthalene	µg/L	0.12	177	125	460	420	23.2	22.5	440	340

Sample ID			CO39-PZM042				CO41-PZM036			
Quarter			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Event Date			2/7/2022	5/9/2022	8/10/2022	12/8/2022	2/8/2022	5/10/2022	8/9/2022	12/8/2022
Volatile Organic Compound	Units	PAL								
Benzene	µg/L	5	3,690	6,810	6,300	5,900	447,000	230,000	200,000	190,000
Ethylbenzene	µg/L	700	21.6	21.3	70	38	732	1,020	870	930
Toluene	µg/L	1000	563	846	2,300	1,200	614,000	99,600	82,000	76,000
Xylenes	µg/L	10000	174	196	580	320	129,000	20,600	17,000	19,000
Total Volatile Organics	µg/L		4,449	7,873	9,250	7,458	1,190,732	351,220	299,870	285,930

Semi-Volatile Organic Compound	Units	PAL								
Naphthalene	µg/L	0.12	666	1,870	1,600	1,200	298	336	<i>1,000 U</i>	680

Notes:

- Bold = Analyte Detected
- Red = Exceedance of groundwater Project Action Limit (PAL)
- µg/L = micrograms per liter
- U = Analyte not detected above reporting limit
- NS = Not Sampled

**Table C2-4
Cell 2 Groundwater Analytical Results**

Sample ID			CO40-PZM008				CO182-MWI			
Quarter			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Event Date			2/7/2022	5/10/2022	8/11/2022	12/8/2022	2/8/2022	5/10/2022	8/11/2022	12/19/2022
Volatile Organic Compound	Units	PAL								
Benzene	µg/L	5	2,360	3,740	8,300	5,400	344,000	278,000	210,000	100,000
Ethylbenzene	µg/L	700	18	21.3	80	53	666	1,040	800	400
Toluene	µg/L	1000	337	546	1,900	1,100	69,400	26,100	17,000	7,000
Xylenes	µg/L	10000	154	186	490	410	17,600	8,980	6,300	3,600
Total Volatile Organics	µg/L		2,869	4,493	10,770	6,963	431,666	314,120	234,100	111,000
Semi-Volatile Organic Compound	Units	PAL								
Naphthalene	µg/L	0.12	3,720	1,600	1,100	1,900	260	222	250	500

Sample ID			CO42-PZM004				GD01-MWI		GD02-MWI	
Quarter			Q1	Q2	Q3	Q4	Q2	Q4	Q2	Q4
Event Date			2/8/2022	6/8/2022	8/4/2022	12/8/2022	6/29/2022	12/27/2022	6/29/2022	12/27/2022
Volatile Organic Compound	Units	PAL								
Benzene	µg/L	5	3.4	30.7	160	90	19	11	87,000	150,000
Ethylbenzene	µg/L	700	<i>1 U</i>	4	14	15	<i>0.5 U</i>	<i>0.5 U</i>	460	420
Toluene	µg/L	1000	6.5	26.5	270	77	<i>0.75 U</i>	0.42	<i>750 U</i>	2,000
Xylenes	µg/L	10000	2.6	26.9	150	120	<i>1 U</i>	<i>1 U</i>	<i>1,000 U</i>	1,500
Total Volatile Organics	µg/L		12.5	88.1	594	302	19	19	87,460	153,920
Semi-Volatile Organic Compound	Units	PAL								
Naphthalene	µg/L	0.12	<i>2 U</i>	14.6	73	70	<i>1 U</i>	0.35	1,200	680

Notes:

- Bold = Analyte Detected
- Red = Exceedance of groundwater Project Action Limit (PAL)
- µg/L = micrograms per liter
- U = Analyte not detected above reporting limit
- NS = Not Sampled

**Table C2-4
Cell 2 Groundwater Analytical Results**

Sample ID			CO180-MWS	CO181-MWS	CO186-MWS	CO209-MWS
Quarter			Q2	Q2	Q2	Q2
Event Date			6/22/2022	6/22/2022	6/8/2022	6/7/2022
Volatile Organic Compound	Units	PAL				
Benzene	µg/L	5	24,000	29,000	31,600	12.8
Ethylbenzene	µg/L	700	110	130	59.7	<i>5 U</i>
Toluene	µg/L	1000	6,500	6,900	6,090	3.8
Xylenes	µg/L	10000	1,700	2,000	976	11.9
Total Volatile Organics	µg/L		32,310	38,030	38,726	29

Semi-Volatile Organic Compound	Units	PAL				
Naphthalene	µg/L	0.12	930	1,700	8	1,730

Sample ID			CO180-MWI	CO181-MWI	CO209-MWI	CO28-PZM048
Quarter			Q2	Q2	Q2	Q2
Event Date			6/22/2022	6/22/2022	6/7/2022	6/23/2022
Volatile Organic Compound	Units	PAL				
Benzene	µg/L	5	31,000	39,000	1,910	150,000
Ethylbenzene	µg/L	700	140	210	82	450
Toluene	µg/L	1000	7,100	11,000	5.1	3,800
Xylenes	µg/L	10000	2,100	2,900	56.5	7,500
Total Volatile Organics	µg/L		40,340	53,110	2,054	161,750

Semi-Volatile Organic Compound	Units	PAL				
Naphthalene	µg/L	0.12	1,200	2,000	18,500	4,100

Notes:

- Bold = Analyte Detected
- Red = Exceedance of groundwater Project Action Limit (PAL)
- µg/L = micrograms per liter
- U = Analyte not detected above reporting limit
- NS = Not Sampled

**Table C3-1
Cell 3 Air Sparge Well Construction Information**

Air Sparge Well Designation	Installation Method	Northing	Easting	Well Depth (ft bgs)	Screen Interval (ft bgs)	Riser Length
AS-1	Hollow Stem Auger	561764.53	1454822.67	25.8	23.8-25.8	24.2
AS-2	Hollow Stem Auger	561759.86	1454785.04	25.8	23.8-25.8	24.7
AS-3	Hollow Stem Auger	561756.68	1454743.04	25.7	23.7-25.7	24.2
AS-4	Hollow Stem Auger	561753.05	1454705.40	26.9	24.9-26.9	25.6
AS-5	Hollow Stem Auger	561746.83	1454670.55	24.6	22.6-24.6	22.9
AS-6	Hollow Stem Auger	561739.92	1454627.92	25.8	23.8-25.8	24.7
AS-7	Hollow Stem Auger	561735.75	1454592.11	27.0	25-27	25.7
AS-8	Hollow Stem Auger	561730.50	1454551.31	26.5	24.5-26.5	25.3
AS-9	Hollow Stem Auger	561727.96	1454509.48	26.2	24.2-26.2	24.9
AS-10	Hollow Stem Auger	561726.26	1454468.55	26.8	24.8-26.8	25.4
AS-11	Hollow Stem Auger	561724.23	1454429.15	22.2	20.2-22.2	20.8
AS-12	Hollow Stem Auger	561724.31	1454388.28	24.5	22.5-24.5	23.2
AS-13	Hollow Stem Auger	561729.46	1454349.75	27.4	25.4-27.4	25.8
AS-14	Hollow Stem Auger	561735.14	1454312.14	23.5	21.5-25.5	22.0
AS-15	Hollow Stem Auger	561740.06	1454271.58	27.4	25.4-27.4	25.9

**Table C3-2: Summary of Operation
Cell 3: AS/SVE System in Cove Area**

Cell 3 2022 Estimated Hydrocarbon Recovery

Parameter	Units	Q1 1/1 - 3/31	Q2 4/1 - 6/30	Q3 7/1 - 9/30	Q4 10/1 - 12/31	Total/Average 1/1 - 12/31
Flow Rate ¹	SCFM	0	285	288	321	298
Average Concentrations	ug/L	0	31.25	3.60	0.51	11.79
Estimated Hydrocarbon Destruction/Removal Rate	pounds/hour	0	0.033	0.004	0.001	0.013
Total VGAC Operating Time	hours	0	1,885	2,137	2,160	6,181
Overall VGAC Operational Time	%	0.0%	86.3%	96.8%	97.8%	70.2%
Estimated Total Hydrocarbons Destroyed/Removed	pounds	0	62.8	8.3	1.3	72.4

¹Flow rates are calculated using the recorded SVE flow temperature.

Cell 3 Cumulative Summary of Estimated Hydrocarbon Recovery

June 24, 2011 - December 31, 2022

Parameter	Units	Quantity
Total VGAC Operating Time	hours	53,952
Overall VGAC Operational Time	%	53.4%
Estimated Total Hydrocarbons Destroyed/Removed	pounds	2,302
Estimated Hydrocarbon Destruction/Removal Rate	pounds/hour	0.0427

Table C3-3 - Cell 3 VGAC Influent Analytical Results

Month		January	February	March	April	May	June
Analyte (TO-15 Organics)	Units	<i>NS</i>	<i>NS</i>	<i>NS</i>	4/14/2022	5/3/2022	6/1/2022
Acetone	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	1.32	1.06
tert-Amyl alcohol (TAA)	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
tert-Amyl ethyl ether (TAEE)	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
tert-Amyl methyl ether (TAME)	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Benzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	76.3	2.53	6.94
Bromobenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Bromochloromethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Bromodichloromethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Bromoform	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Bromomethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
tert-Butanol (TBA)	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
2-Butanone (MEK)	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
n-Butylbenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
sec-Butylbenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
tert-Butylbenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Carbon disulfide	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Carbon tetrachloride	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Chlorobenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Chloroethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Chloroform	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Chloromethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
2-Chlorotoluene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
4-Chlorotoluene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,2-Dibromo-3-chloropropane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Dibromochloromethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,2-Dibromoethane (EDB)	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Dibromomethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,2-Dichlorobenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,3-Dichlorobenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,4-Dichlorobenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Dichlorodifluoromethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,1-Dichloroethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,2-Dichloroethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,1-Dichloroethene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
cis-1,2-Dichloroethene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
trans-1,2-Dichloroethene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Dichlorofluoromethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,2-Dichloropropane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,3-Dichloropropane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
2,2-Dichloropropane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,1-Dichloropropene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
cis-1,3-Dichloropropene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
trans-1,3-Dichloropropene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Diisopropyl ether (DIPE)	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Ethyl tert-butyl ether (ETBE)	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Ethylbenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Hexachlorobutadiene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
2-Hexanone	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Isopropylbenzene (Cumene)	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
4-Isopropyltoluene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Methyl tert-butyl ether (MTBE)	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
4-Methyl-2-pentanone	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Methylene chloride	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Naphthalene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
n-Propylbenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Styrene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,1,1,2-Tetrachloroethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,1,2,2-Tetrachloroethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Tetrachloroethene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Toluene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	4.84	0.22	0.54
1,2,3-Trichlorobenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,2,4-Trichlorobenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,1,1-Trichloroethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,1,2-Trichloroethane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Trichloroethene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Trichlorofluoromethane (Freon 11)	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,2,3-Trichloropropane	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,2,4-Trimethylbenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
1,3,5-Trimethylbenzene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Vinyl chloride	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
o-Xylene	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
m- & p-Xylenes	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
Total Volatile Organics	ug/L	<i>NS</i>	<i>NS</i>	<i>NS</i>	81	4	9

Notes:

BOLD = Analyte detected

ug/L = micro grams per liter

U = Analyte not detected above reporting limit.

NS = Not Sampled

Table C3-3 - Cell 3 VGAC Influent Analytical Results

Month		July	August	September	October	November	December
Analyte (TO-15 Organics)	Units	7/6/2022	8/1/2022	9/8/2022	10/5/2022	11/1/2022	12/1/2022
Acetone	ug/L	ND	ND	ND	ND	1.24	ND
tert-Amyl alcohol (TAA)	ug/L	ND	ND	ND	ND	ND	ND
tert-Amyl ethyl ether (TAEE)	ug/L	ND	ND	ND	ND	ND	ND
tert-Amyl methyl ether (TAME)	ug/L	ND	ND	ND	ND	ND	ND
Benzene	ug/L	0.23	9.89	ND	0.29	ND	ND
Bromobenzene	ug/L	ND	ND	ND	ND	ND	ND
Bromochloromethane	ug/L	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ug/L	ND	ND	ND	ND	ND	ND
Bromoform	ug/L	ND	ND	ND	ND	ND	ND
Bromomethane	ug/L	ND	ND	ND	ND	ND	ND
tert-Butanol (TBA)	ug/L	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	ug/L	ND	ND	ND	ND	ND	ND
n-Butylbenzene	ug/L	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	ug/L	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	ug/L	ND	ND	ND	ND	ND	ND
Carbon disulfide	ug/L	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ug/L	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
Chloroethane	ug/L	ND	ND	ND	ND	ND	ND
Chloroform	ug/L	ND	ND	ND	ND	ND	ND
Chloromethane	ug/L	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	ug/L	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ug/L	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane (EDB)	ug/L	ND	ND	ND	ND	ND	ND
Dibromomethane	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/L	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/L	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ug/L	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	ug/L	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ug/L	ND	ND	ND	ND	ND	ND
Dichlorofluoromethane	ug/L	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ug/L	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane	ug/L	ND	ND	ND	ND	ND	ND
2,2-Dichloropropane	ug/L	ND	ND	ND	ND	ND	ND
1,1-Dichloropropene	ug/L	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	ug/L	ND	ND	ND	ND	ND	ND
Diisopropyl ether (DIPE)	ug/L	ND	ND	ND	ND	ND	ND
Ethyl tert-butyl ether (ETBE)	ug/L	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	ug/L	ND	ND	ND	ND	ND	ND
2-Hexanone	ug/L	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	ug/L	ND	ND	ND	ND	ND	ND
4-Isopropyltoluene	ug/L	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	ug/L	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ug/L	ND	ND	ND	ND	ND	ND
Methylene chloride	ug/L	ND	ND	ND	ND	ND	ND
Naphthalene	ug/L	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/L	ND	ND	ND	ND	ND	ND
Styrene	ug/L	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ug/L	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ug/L	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ug/L	ND	ND	ND	ND	ND	ND
Toluene	ug/L	ND	0.67	ND	ND	ND	ND
1,2,3-Trichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ug/L	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ug/L	ND	ND	ND	ND	ND	ND
Trichloroethene	ug/L	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane (Freon 11)	ug/L	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ug/L	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ug/L	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	ug/L	ND	ND	ND	ND	ND	ND
Vinyl chloride	ug/L	ND	ND	ND	ND	ND	ND
o-Xylene	ug/L	ND	ND	ND	ND	ND	ND
m- & p-Xylenes	ug/L	ND	ND	ND	ND	ND	ND
Total Volatile Organics	ug/L	0	11	0	0.29	1	0

Notes:
BOLD = Analyte detected
 ug/L = micro grams per liter
 U = Analyte not detected above reporting limit.
 NS = Not Sampled

**Table C3-4
Cell 3 Groundwater Analytical Results**

Sample ID			CO30-PZM015				CO195-MWS			
Quarter			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Event Date			2/10/2022	6/7/2022	8/2/2022	12/6/2022	2/10/2022	6/8/2022	8/2/2022	12/6/2022
Volatile Organic Compounds	Units	PAL								
Benzene	µg/L	5	62,800	134,000	54,000	62,000	49,000	105,000	38,000	41,000
Ethylbenzene	µg/L	700	107	96.1	120	110	76	66.3	0.5	<i>200 U</i>
Toluene	µg/L	1,000	5,720	9,830	4,300	4,400	3,860	7,600	3,100	3,000
Xylenes	µg/L	10,000	1,670	1,250	1,500	1,300	1,160	855	860	780
Total Volatile Organics	µg/L		70,297	145,176	59,920	67,810	54,096	113,521	41,961	44,780
Semi-Volatile Organic Compounds	Units	PAL								
Naphthalene	µg/L	0.12	4,810	1,650	2,100	2,000	2,760	1,340	1,900	1,500

Notes:

Bold = Analyte Detected

Red = Exceedence of groundwater Project Action Limit (PAL)

NS = Not Sampled

µg/L = Micrograms per liter

U = Analyte not detected

Table C3-4
Cell 3 Groundwater Analytical Results

Sample ID		CO194-MWS		CO196-MWS		CO198-MWS		CO201-MWS		CO30-PZM060
Quarter		Q2	Q4	Q2	Q4	Q2	Q4	Q2	Q4	Q2
Event Date		5/12/2022	12/9/2022	5/12/2022	12/9/2022	6/7/2022	12/9/2022	6/7/2022	12/9/2022	6/7/2022
Volatile Organic Compounds		Units								
Benzene	µg/L	617	740	20,300	7,300	282	280	2,280	1,800	4.4
Ethylbenzene	µg/L	4.1	4.1	15.1	15	2.6	2.3	6	4.1	<i>1 U</i>
Toluene	µg/L	105	120	670	500	65.1	62	189	120	<i>1 U</i>
Xylenes	µg/L	57.6	65	189	160	37.4	36	89.8	70	<i>3 U</i>
Total Volatile Organics	µg/L	784	929	21,174	7,975	387	380	2,565	1,994	4
Semi-Volatile Organic Compounds		Units								
Naphthalene	µg/L	2,960	2,900	541	460	1,320	2,000	227	240	<i>4 U</i>

Notes:

Bold = Analyte Detected

Red = Exceedence of groundwater Project Action

NS = Not Sampled

µg/L = Micrograms per liter

U = Analyte not detected

**Table C4-1: Summary of Operation
Cell 4: DNAPL Occurrence and Recovery in Former Coke Oven Area**

Well ID	Total DNAPL Recovery Period		Pre-2022		Estimated DNAPL Recovered 2022		Cumulative Total DNAPL Recovered	
	Begin	End	(gal)	(lbs) ¹	(gal)	(lbs) ¹	(gal)	(lbs) ¹
CO123	1-Jan-16	On-going ²	635	6,094	26	250	661	6,344
CO124	1-Jan-16	On-going ²	622	5,969	12	115	634	6,085
CO125	1-Jan-16	On-going ²	235	2,255	6	58	241	2,313
CO169	1-Jan-16	Pre-2020	50	480	0	0	50	480
Total Recovery:			1,542	14,799	44	422	1,586	15,221

Notes:

¹ Weight is calculated based on oil density of 1.15 grams per cubic centimeter.

² Pneumatic pumps

**Table C5-1: Summary of Operation
Cell 5: DPE System in Former Coke Oven Area**

Parameter	Units	Q1 1/1 - 3/31	Q2 4/1 - 6/30	Q3 7/1 - 9/30	Q4 10/1 - 12/31	Total 1/1 - 12/31
Total Discharge	gallons	273,970	1,368,590	1,028,103	1,040,072	3,710,735
Total Operating Time	hours	542	2,084	1,875	2,081	6,581
Overall Operational Time	%	25.1%	95.4%	84.9%	94.2%	74.9%
Extracted Total Concentrations	lbs/gal	4.19E-05	4.77E-05	4.34E-05	5.53E-05	1.88E-04
Effluent Total Concentrations	lbs/gal	0.0	0.0	0.0	0.0	0.0
Extracted Hydrocarbons	lbs	11.5	65.3	44.6	57.6	179
Effluent Hydrocarbons	lbs	0.0	0.0	0.0	0.0	0.0
Total Hydrocarbons Removed	lbs	11.5	65.3	44.6	57.6	179

**Table C5-2
Cell 5 Monitoring Well Construction Information**

Monitoring Well Designation	Monitoring Well Temporary Identification	Installation Method	Northing	Easting	Top of Casing Elevation	Protection Cover Type	Well Total Depth	Riser Length	Screen Length
CO23-PZM008	-----	Hollow Stem Auger	561783.979	1457095.859	11.17	Flush Mount	19	9	10
CO24-PZM007	-----	Hollow Stem Auger	562048.175	1457276.816	12.02	Flush Mount	19	9	10
CO26-PZM007	-----	Hollow Stem Auger	561682.425	1458048.048	12.76	Flush Mount	20	10	10
CO55-PZM000	Cell 5 - MW1 (S)	Hollow Stem Auger	561434.420	1457585.900	15.10	Steel Riser	15	5	10
CO56-PZP001	Cell 5 - MW2 (S)	Hollow Stem Auger	561668.410	1457790.050	15.92	Steel Riser	15	5	10
CO57-PZP002	Cell 5 - MW3 (S)	Hollow Stem Auger	561122.520	1457530.000	16.59	Steel Riser	15	5	10
CO58-PZM001	Cell 5 - MW4 (S)	Hollow Stem Auger	561331.310	1457989.130	14.31	Steel Riser	15	5	10
CO59-PZP002	Cell 5 - MW5 (S)	Hollow Stem Auger	561446.980	1457308.790	16.75	Steel Riser	15	5	10
CO60-PZP001	Cell 5 - MW6 (S)	Hollow Stem Auger	561872.550	1457913.360	15.83	Steel Riser	15	5	10

**Table C5-3
Cell 5 Monitoring Well Groundwater Elevations**

Well ID	Temporary Well ID	Top of PVC Elevation (ft)	Aquifer	Well Depth from Ground Surface (ft)	2/1/2022		5/3/2022		8/2/2022		11/28/2022	
					Depth to Groundwater	Groundwater Elevation (ft)	Depth to Groundwater	Groundwater Elevation (ft)	Depth to Groundwater	Groundwater Elevation (ft)	Depth to Groundwater	Groundwater Elevation (ft)
CO23-PZM008		15.74	Shallow	19.00	15.40	0.34	14.93	0.81	15.09	0.65	15.24	0.50
CO24-PZM007		15.95	Shallow	19.00	15.07	0.88	14.72	1.23	14.73	1.22	14.90	1.05
CO26-PZM007		12.76	Shallow	20.00	12.01	0.75	14.51	-1.75	15.45	-2.69	15.80	-3.04
CO55-PZM000	Cell 5 - MW1 (S)	15.10	Shallow	15.00	14.80	0.30	15.46	-0.36	14.53	0.57	14.68	0.42
CO56-PZP001	Cell 5 - MW2 (S)	15.92	Shallow	15.00	15.70	0.22	15.22	0.7	15.37	0.55	15.53	0.39
CO57-PZP002	Cell 5 - MW3 (S)	16.59	Shallow	15.00	16.34	0.25	15.91	0.68	16.03	0.56	16.18	0.41
CO58-PZM001	Cell 5 - MW4 (S)	14.31	Shallow	15.00	14.15	0.16	13.63	0.68	13.74	0.57	13.96	0.35
CO59-PZP002	Cell 5 - MW5 (S)	16.75	Shallow	15.00	14.11	2.64	15.94	0.81	16.09	0.66	16.24	0.51
CO60-PZP001	Cell 5 - MW6 (S)	15.83	Shallow	15.00	15.77	0.06	15.15	0.68	15.26	0.57	*	--

Note: NM = Not Measured
* = No water, well blocked

Table C5-4
Cell 5 Groundwater Analytical Results

Sample ID			CO23-PZM008				CO24-PZM007				CO26-PZM007					
Quarter			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
Event Date			2/3/2022	6/23/2022	8/3/2022	12/1/2022	2/3/2022	5/23/2022	8/3/2022	12/1/2022	2/9/2022	6/23/2022	8/3/2022	11/30/2022		
Volatile Organic Compounds		Units	PAL													
Benzene	µg/L	5		533	510	450	580	3.7	4.4	10 U	5.2	331	NS	120	210	
Ethylbenzene	µg/L	700		27.4	27	24	27	2.9	3.1	10 U	10 U	10.6	NS	4.1	6.1	
Toluene	µg/L	1000		324	260	280	310	1.9	2.0	15 U	15 U	175	NS	62	93	
Xylenes	µg/L	10000		457	510	420	480	4.5	4.4	20 U	20 U	258	NS	94	140	
Total Volatile Organics		µg/L		1,341	1,307	1,174	1397	13	14	0	5.2	775	NS	280	449.1	
Semi-Volatile Organic Compounds			Units	PAL												
Naphthalene	µg/L	0.12		2,900	3,100	3,500	4,500	1,530	2,770	1,800	2,700	3,380	NS	960	1,400	

Sample ID			CO55-PZM000				CO56-PZP001				CO57-PZP002					
Quarter			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
Event Date			2/9/2022	5/23/2022	8/3/2022	12/2/2022	2/9/2022	5/23/2022	8/3/2022	12/2/2022	2/9/2022	6/23/2022	8/4/2022	11/30/2022		
Volatile Organic Compounds		Units	PAL													
Benzene	µg/L	5		74	1 U	0.39	0.17	245	291	200	360	1 U	0.5 U	0.5 U	0.5 U	
Ethylbenzene	µg/L	700		2.9	1 U	0.5 U	0.5 U	9.2	10.3	7.2	11	1 U	0.5 U	0.5 U	0.5 U	
Toluene	µg/L	1000		38	1 U	0.27	0.75 U	87.9	173	53	75	1 U	0.25	0.75 U	0.75 U	
Xylenes	µg/L	10000		49.5	3 U	0.34	1 U	183	216	160	260	3 U	1 U	1 U	1 U	
Total Volatile Organics		µg/L		164.4	0	1.0	0.17	525	690	420	260	0	0	0	0	
Semi-Volatile Organic Compounds			Units	PAL												
Naphthalene	µg/L	0.12		245	4 U	3.8	0.49	2,310	1,810	2,000	3,000	2 U	0.3	1 U	1 U	

Sample ID			CO58-PZM001				CO59-PZP002				CO60-PZP001					
Quarter			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
Event Date			2/9/2022	5/12/2022	8/4/2022	11/30/2022	2/10/2022	5/23/2022	8/4/2022	12/1/2022	2/3/2022	5/12/2022	NS	NS		
Volatile Organic Compounds		Units	PAL													
Benzene	µg/L	5		128	1 U	72	190	1 U	1 U	13	13	168	57.2	NS	NS	
Ethylbenzene	µg/L	700		5.4	1 U	3.4	8	1 U	0.41	0.54	0.62	6.2	2.2	NS	NS	
Toluene	µg/L	1000		43.2	1 U	26	69	1 U	0.48	4.4	3.4	30.9	10.1	NS	NS	
Xylenes	µg/L	10000		91.1	3 U	64	140	3 U	2.8	9.1	9.6	133	40.1	NS	NS	
Total Volatile Organics		µg/L		268	0	165	407	0	4	27	26.62	338.1	109.6	NS	NS	
Semi-Volatile Organic Compounds			Units	PAL												
Naphthalene	µg/L	0.12		1,200	4 U	770	1,600	1.2	4 U	53	58	1,290	360	NS	NS	

Notes:
 Bold = Analyte Detected
 Red = Exceedance of groundwater Project Action Limit (PAL)
 NS = Not Sampled
 µg/L = Micrograms per liter
 U = Analyte not detected above reporting limit
 Naphthalene values included in total

Table C6-1
Cell 6: LNAPL Recovery in Former Benzol Processing Area

Method	Recovery Period		Pre-2022		LNAPL Recovered Q1		LNAPL Recovered Q2		LNAPL Recovered Q3		LNAPL Recovered Q4		Cumulative Total LNAPL Recovered	
	Begin	End	(gal)	(lbs) ¹	(gal)	(lbs) ¹	(gal)	(lbs) ¹	(gal)	(lbs) ¹	(gal)	(lbs) ¹	(gal)	(lbs) ¹
Manual Skimming and Bailing	7/23/2010	2019	16,162	118,435	0	0	0	0	0	0	0	0	16,162	118,435
CO173 Pneumatic Skimmer Pump	12/17/2019	On-going	6,140	44,994	463	3,393	322	2,360	318	2,330	297	2,176	7,540	55,253
Test Pit Double Diaphragm Pump	9/6/2022	On-going	0	0	0	0	0	0	860	6,302	771	5,650	1,631	11,952
MPE System	10/1/2016	2021	7,643	56,008	0	0	0	0	0	0	0	0	7,643	56,008
	Total Recovery		29,945	219,437	463	3,393	322	2,360	1,178	8,632	1,068	7,826	32,976	241,648

Notes:

¹ Weight is calculated based on average BP-MW-05 and BP-MW-08 oil density of 0.878 grams per cubic centimeter, measured by EA (2009) by ASTM Method D1481.

Table C6-2
Cell 6 2022 CO173 Groundwater Gauging and LNAPL Thickness Data

Date:	Depth to Product:	Depth to Groundwater:	LNAPL Thickness (ft):
1/6/22	15.89	18.70	2.81
1/12/22	15.76	18.63	2.87
1/19/22	15.40	18.93	3.53
1/26/22	15.55	18.87	3.32
2/1/22	15.76	18.95	3.19
2/9/22	15.34	18.84	3.50
2/16/22	15.62	18.80	3.18
2/23/22	15.90	19.03	3.13
3/2/22	16.05	18.93	2.88
3/9/22	16.31	18.91	2.60
3/23/22	16.09	19.06	2.97
3/30/22	16.18	19.07	2.89
4/6/22	16.02	18.86	2.84
4/13/22	14.97	19.48	4.51
4/19/22	14.91	18.81	3.90
4/27/22	15.00	18.93	3.93
5/3/22	15.32	18.96	3.64
5/10/22	14.47	18.41	3.94
5/17/22	14.65	18.88	4.22
5/24/22	14.91	18.75	3.84
6/1/22	15.04	19.34	4.30
6/7/22	15.22	18.83	3.61
6/14/22	15.24	18.91	3.67
6/21/22	15.52	18.91	3.39
6/28/22	15.66	18.91	3.25
7/5/22	15.89	19.48	3.59
7/12/22	15.43	19.13	3.70
7/19/22	15.62	19.00	3.38
7/26/22	15.89	19.00	3.11
8/2/22	16.07	18.80	2.73
8/9/22	15.95	18.82	2.87
8/18/22	16.06	19.12	3.06
8/23/22	16.03	18.98	2.95
8/30/22	16.14	19.08	2.94
9/6/22	16.14	18.76	2.52
9/13/22	15.83	18.75	2.62
9/13/22	15.83	18.75	2.95
9/20/22	16.03	18.98	2.95
9/27/22	16.19	18.91	2.72
10/5/22	15.02	17.55	2.53
10/11/22	14.89	18.62	3.73
10/18/22	15.02	18.89	3.87
10/25/22	15.29	18.71	2.42
11/1/22	15.38	18.78	3.40
11/8/22	15.68	19.03	3.35
11/15/22	15.88	18.82	2.94
11/22/22	15.79	18.74	2.95
11/29/22	16.00	18.95	2.95
12/6/22	16.00	18.83	2.83
12/13/22	15.90	18.90	3.00

APPENDIX A

Laboratory Analytical Reports

February 13, 2022

Mr. Bob Tworkowski
TradePoint Atlantic
1600 Sparrow's Point Boulevard
Sparrows Point, MD 21219

RE: Project: COA-Revised Report
Pace Project No.: 30462719

Dear Mr. Tworkowski:

Enclosed are the analytical results for sample(s) received by the laboratory on February 03, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

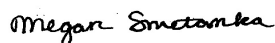
The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

(Greensburg, PA) - Revision 1 - This report replaces the February, 11, 2022 report. This project was revised on February, 13, 2022 to revise sample IDs.

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

Sincerely,



Megan J. Smetanka
megan.smetanka@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Kaye Guille, ARM Group Inc.
J.Price, ARM Group Inc.
Stewart Kabis, ARM Group Inc.
Mr. Eric S. Magdar, ARM Group Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: COA-Revised Report
Pace Project No.: 30462719

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Florida: Cert E871149 SEKS WET
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: COA-Revised Report
Pace Project No.: 30462719

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30462719001	Trip Blank	Water	02/03/22 00:00	02/03/22 23:15
30462719002	CO36-PZM008	Water	02/03/22 08:35	02/03/22 23:15
30462719003	CO36-PZM043	Water	02/03/22 10:50	02/03/22 23:15
30462719004	CO24-PZM007	Water	02/03/22 12:40	02/03/22 23:15
30462719005	CO23-PZM008	Water	02/03/22 14:10	02/03/22 23:15
30462719006	CO60-PZM001	Water	02/03/22 14:55	02/03/22 23:15

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SAMPLE ANALYTE COUNT

Project: COA-Revised Report
Pace Project No.: 30462719

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30462719001	Trip Blank	EPA 8260B	AJC	9	PASI-PA
30462719002	CO36-PZM008	EPA 8260B	AJC	9	PASI-PA
30462719003	CO36-PZM043	EPA 8260B	AJC	9	PASI-PA
30462719004	CO24-PZM007	EPA 8260B	AJC	9	PASI-PA
30462719005	CO23-PZM008	EPA 8260B	AJC	9	PASI-PA
30462719006	CO60-PZM001	EPA 8260B	AJC	9	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA-Revised Report

Pace Project No.: 30462719

Sample: Trip Blank		Lab ID: 30462719001		Collected: 02/03/22 00:00		Received: 02/03/22 23:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV		Analytical Method: EPA 8260B Pace Analytical Services - Greensburg							
Benzene	1.0 U	ug/L	1.0	0.34	1		02/10/22 13:46	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		02/10/22 13:46	100-41-4	
Naphthalene	2.0 U	ug/L	2.0	0.82	1		02/10/22 13:46	91-20-3	
Toluene	1.0 U	ug/L	1.0	0.32	1		02/10/22 13:46	108-88-3	
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		02/10/22 13:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	120	%	70-130		1		02/10/22 13:46	460-00-4	
1,2-Dichloroethane-d4 (S)	123	%	70-130		1		02/10/22 13:46	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		02/10/22 13:46	2037-26-5	
Dibromofluoromethane (S)	106	%	70-130		1		02/10/22 13:46	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA-Revised Report

Pace Project No.: 30462719

Sample: CO36-PZM008 **Lab ID: 30462719002** Collected: 02/03/22 08:35 Received: 02/03/22 23:15 Matrix: Water

Parameters	Results	Units	Report		DF	Prepared	Analyzed	CAS No.	Qual
			Limit	MDL					
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	19000	ug/L	500	169	500		02/10/22 20:08	71-43-2	
Ethylbenzene	17.1	ug/L	5.0	2.0	5		02/10/22 19:42	100-41-4	
Naphthalene	233	ug/L	10.0	4.1	5		02/10/22 19:42	91-20-3	
Toluene	1510	ug/L	5.0	1.6	5		02/10/22 19:42	108-88-3	
Xylene (Total)	672	ug/L	15.0	6.8	5		02/10/22 19:42	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	114	%	70-130		5		02/10/22 19:42	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130		5		02/10/22 19:42	17060-07-0	
Toluene-d8 (S)	96	%	70-130		5		02/10/22 19:42	2037-26-5	
Dibromofluoromethane (S)	97	%	70-130		5		02/10/22 19:42	1868-53-7	

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ANALYTICAL RESULTS

Project: COA-Revised Report

Pace Project No.: 30462719

Sample: CO36-PZM043 **Lab ID: 30462719003** Collected: 02/03/22 10:50 Received: 02/03/22 23:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	55700	ug/L	500	169	500		02/10/22 20:58	71-43-2	
Ethylbenzene	58.2	ug/L	5.0	2.0	5		02/10/22 20:33	100-41-4	
Naphthalene	433	ug/L	10.0	4.1	5		02/10/22 20:33	91-20-3	
Toluene	8150	ug/L	500	158	500		02/10/22 20:58	108-88-3	
Xylene (Total)	838	ug/L	15.0	6.8	5		02/10/22 20:33	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	115	%	70-130		5		02/10/22 20:33	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	70-130		5		02/10/22 20:33	17060-07-0	
Toluene-d8 (S)	96	%	70-130		5		02/10/22 20:33	2037-26-5	
Dibromofluoromethane (S)	94	%	70-130		5		02/10/22 20:33	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA-Revised Report

Pace Project No.: 30462719

Sample: CO24-PZM007 **Lab ID: 30462719004** Collected: 02/03/22 12:40 Received: 02/03/22 23:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	3.7	ug/L	1.0	0.34	1		02/10/22 17:10	71-43-2	
Ethylbenzene	2.9	ug/L	1.0	0.40	1		02/10/22 17:10	100-41-4	
Naphthalene	1530	ug/L	100	41.0	50		02/10/22 17:35	91-20-3	
Toluene	1.9	ug/L	1.0	0.32	1		02/10/22 17:10	108-88-3	
Xylene (Total)	4.5	ug/L	3.0	1.4	1		02/10/22 17:10	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		1		02/10/22 17:10	460-00-4	
1,2-Dichloroethane-d4 (S)	123	%	70-130		1		02/10/22 17:10	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		02/10/22 17:10	2037-26-5	
Dibromofluoromethane (S)	108	%	70-130		1		02/10/22 17:10	1868-53-7	

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ANALYTICAL RESULTS

Project: COA-Revised Report

Pace Project No.: 30462719

Sample: CO23-PZM008 **Lab ID: 30462719005** Collected: 02/03/22 14:10 Received: 02/03/22 23:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	533	ug/L	5.0	1.7	5		02/10/22 18:52	71-43-2	
Ethylbenzene	27.4	ug/L	5.0	2.0	5		02/10/22 18:52	100-41-4	
Naphthalene	2900	ug/L	100	41.0	50		02/10/22 19:17	91-20-3	
Toluene	324	ug/L	5.0	1.6	5		02/10/22 18:52	108-88-3	
Xylene (Total)	457	ug/L	15.0	6.8	5		02/10/22 18:52	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	112	%	70-130		5		02/10/22 18:52	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	70-130		5		02/10/22 18:52	17060-07-0	
Toluene-d8 (S)	95	%	70-130		5		02/10/22 18:52	2037-26-5	
Dibromofluoromethane (S)	104	%	70-130		5		02/10/22 18:52	1868-53-7	

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ANALYTICAL RESULTS

Project: COA-Revised Report

Pace Project No.: 30462719

Sample: CO60-PZM001 **Lab ID: 30462719006** Collected: 02/03/22 14:55 Received: 02/03/22 23:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	168	ug/L	1.0	0.34	1		02/10/22 18:01	71-43-2	
Ethylbenzene	6.2	ug/L	1.0	0.40	1		02/10/22 18:01	100-41-4	
Naphthalene	1290	ug/L	100	41.0	50		02/10/22 18:26	91-20-3	
Toluene	30.9	ug/L	1.0	0.32	1		02/10/22 18:01	108-88-3	
Xylene (Total)	133	ug/L	3.0	1.4	1		02/10/22 18:01	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	110	%	70-130		1		02/10/22 18:01	460-00-4	
1,2-Dichloroethane-d4 (S)	121	%	70-130		1		02/10/22 18:01	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		02/10/22 18:01	2037-26-5	
Dibromofluoromethane (S)	104	%	70-130		1		02/10/22 18:01	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: COA-Revised Report
Pace Project No.: 30462719

QC Batch: 483090 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30462719001, 30462719002, 30462719003, 30462719004, 30462719005, 30462719006

METHOD BLANK: 2335542 Matrix: Water
Associated Lab Samples: 30462719001, 30462719002, 30462719003, 30462719004, 30462719005, 30462719006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	1.0 U	1.0	0.34	02/10/22 12:30	
Ethylbenzene	ug/L	1.0 U	1.0	0.40	02/10/22 12:30	
Naphthalene	ug/L	2.0 U	2.0	0.82	02/10/22 12:30	
Toluene	ug/L	1.0 U	1.0	0.32	02/10/22 12:30	
Xylene (Total)	ug/L	3.0 U	3.0	1.4	02/10/22 12:30	
1,2-Dichloroethane-d4 (S)	%	119	70-130		02/10/22 12:30	
4-Bromofluorobenzene (S)	%	119	70-130		02/10/22 12:30	
Dibromofluoromethane (S)	%	105	70-130		02/10/22 12:30	
Toluene-d8 (S)	%	96	70-130		02/10/22 12:30	

LABORATORY CONTROL SAMPLE: 2335543

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.7	99	70-130	
Ethylbenzene	ug/L	20	20.5	103	70-130	
Naphthalene	ug/L	20	13.3	66	55-160	
Toluene	ug/L	20	20.7	104	70-130	
Xylene (Total)	ug/L	60	61.8	103	70-130	
1,2-Dichloroethane-d4 (S)	%			119	70-130	
4-Bromofluorobenzene (S)	%			117	70-130	
Dibromofluoromethane (S)	%			105	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2335544 2335545

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		30462830001 Result	Spike Conc.	Spike Conc.	Result						
Benzene	ug/L	ND	20	20	22.6	20.1	113	101	50-149	11	30
Ethylbenzene	ug/L	ND	20	20	21.9	19.4	110	97	63-135	12	30
Naphthalene	ug/L	ND	20	20	14.6	12.8	73	64	30-157	13	30
Toluene	ug/L	ND	20	20	22.9	20.1	114	100	59-139	13	30
Xylene (Total)	ug/L	ND	60	60	65.5	57.9	109	96	63-135	12	30
1,2-Dichloroethane-d4 (S)	%						117	118	70-130		
4-Bromofluorobenzene (S)	%						114	114	70-130		
Dibromofluoromethane (S)	%						104	106	70-130		
Toluene-d8 (S)	%						98	96	70-130		

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: COA-Revised Report
Pace Project No.: 30462719

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 30462719002

[1] The pH of the VOA vial used for analysis was 12.

Sample: 30462719004

[1] Residual Chlorine was present in the VOA vial used for analysis.

Sample: 30462719006

[1] Residual Chlorine was present in the VOA vial used for analysis.

Sample: 2335544

[1] The pH of the VOA vial used for analysis was 7.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COA-Revised Report
Pace Project No.: 30462719

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30462719001	Trip Blank	EPA 8260B	483090		
30462719002	CO36-PZM008	EPA 8260B	483090		
30462719003	CO36-PZM043	EPA 8260B	483090		
30462719004	CO24-PZM007	EPA 8260B	483090		
30462719005	CO23-PZM008	EPA 8260B	483090		
30462719006	CO60-PZM001	EPA 8260B	483090		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A
 Required Client Information:
 Company: Tradepoint Atlantic
 Address: 1600 Sparrows Point Blvd
 Sparrows Point, MD 21219
 Email To:
 Phone:
 Fax:

Section B
 Required Project Information:
 Report To: Bob Tworkowski
 Copy To: Stew Kabis
 PO Number:
 Project Name: COA
 Project Number: 20010210
 Requested Due Date/TAT: 5 day

Section C
 Invoice Information:
 Attention: Bob Tworkowski
 Company Name: Tradepoint Atlantic
 Address: 1600 Sparrows Point Blvd, Sparrows Point, MD 21219
 Pace Quote Reference:
 Pace Project Manager:
 Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER _____

Site Location
 STATE: MD

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	# OF CONTAINERS	Preservatives						Analysis Test BTEX and naphthalene via 8260	Pace Project No./ Lab I.D.	
			COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME	H ₂ SO ₄	HNO ₃	HCl	NaOH			Na ₂ S ₂ O ₃
1		WT6				2									
2	Trip Blank Wt 1	WT6	2/3/22	8:35		3									
3	C036-PZM008	WT6	10:50			3									
4	C024-PZM007	WT6	12:40			3									
5	C023-PZM008	WT6	14:10			3									
6	C060-PZM001	WT6	14:55			3									
7															
8															
9															
10															
11															
12															

Requested Analysis Filtered (Y/N)

RECEIVED BY / AFFILIATION DATE TIME

ACCEPTED BY / AFFILIATION DATE TIME

ADDITIONAL COMMENTS

Data Package Required? (Y/N): No
 Date: 2/3/22 Time: 2:32
 Signature: [Signature]

Data Validation Required? (Y/N): No
 Date: 2/3/22 Time: 2:32
 Signature: [Signature]

Requested Analysis Filtered (Y/N)

Received on Ice (Y/N) 7
 Custody Sealed Cooler (Y/N) X
 Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Yisa Peran
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed (MM/DD/YY): 2/3/22

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Sparrows Point Tradepoint Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Label DFG
LIMS Login VPI

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 19 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 5.9 °C Correction Factor: +0.0 °C Final Temp: 5.9 °C

Temp should be above freezing to 6°C

Comments:	pH paper Lot#			Date and Initials of person examining contents: <u>DFG 2-4-2022</u>
	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC: -Includes date/time/ID Matrix: <u>VPP</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. <u>Trip blank not listed on COC</u>
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8. <u>5 day</u>
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used: -Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.
All containers meet method preservation requirements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed <u>DFG</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17.
Trip Blank Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rad Samples Screened < 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date: Survey Meter SN:

Client Notification/ Resolution:
 Person Contacted: _____ Date/Time: _____ Contacted By: _____
 Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
 *PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

WO#: 30462719
 PM: MS1 Due Date: 02/11/22
 CLIENT: TRADEPOINT



Pace Greensburg Lab -Sample Container Count

30462719

Trade point

Client

Profile Number 13369

Site

COA

Notes

Sample Line Item	Matrix	AG1H	AG1S	AG1T	AG2U	AG3S	AG3U	AG5U	AG5T	BG1U	BG2U	BP1N	BP1U	BP2S	BP2U	BP3C	BP3N	BP3S	BP3U	DG9S	GCUB	VG9H	VG9T	VG9U	VOAK	WGFU	WGKU	ZPLC	
1	WT																					3							
2	WT																						3						
3	WT																						3						
4	WT																						3						
5	WT																						3						
6	WT																						3						
7	WT																						2						
8																													
9																													
10																													
11																													
12																													

Container Codes

Glass	
GJN	1 Gallon Jug with HNO3
AG5U	100mL amber glass unreserved
AG5T	100mL amber glass Na Thiosulfate
GJN	1 Gallon Jug
AG1S	1L amber glass H2SO4
AG1H	1L amber glass HCl
AG1T	1L amber glass Na Thiosulfate
BG1U	1L clear glass unreserved
AG3S	250mL amber glass H2SO4
AG3U	250mL amber glass unreserved
DG9S	40mL amber VOA vial H2SO4
VG9U	40mL clear VOA vial
VG9T	40mL clear VOA vial Na Thiosulfate
VG9H	40mL clear VOA vial HCl
JGFU	4oz amber wide jar
WGFU	4oz wide jar unreserved
BG2U	500mL clear glass unreserved
AG2U	500mL amber glass unreserved
WGKU	8oz wide jar unreserved

Plastic / Misc.	
GCUB	1 Gallon Cubitainer
12GN	1/2 Gallon Cubitainer
SP5T	120mL Coliform Na Thiosulfate
BP1N	1L plastic HNO3
BP1U	1L plastic unreserved
BP3S	250mL plastic H2SO4
BP3N	250mL plastic HNO3
BP3U	250mL plastic unreserved
BP3C	250mL plastic NAOH
BP2S	500mL plastic H2SO4
BP2U	500mL plastic unreserved
EZI	5g Encore
VOAK	Kit for Volatile Solid
I	Wipe/Swab
ZPLC	Ziploc Bag
WT	Water
SL	Solid
OL	Non-aqueous liquid
WP	Wipe

February 16, 2022

Mr. Bob Tworkowski
Tradepoint Atlantic
1600 Sparrow's Point Boulevard
Sparrows Point, MD 21219

RE: Project: COA
Pace Project No.: 30463234

Dear Mr. Tworkowski:

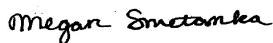
Enclosed are the analytical results for sample(s) received by the laboratory on February 07, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

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

Sincerely,



Megan J. Smetanka
megan.smetanka@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Kaye Guille, ARM Group Inc.
J.Price, ARM Group Inc.
Stewart Kabis, ARM Group Inc.
Mr. Eric S. Magdar, ARM Group Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: COA
Pace Project No.: 30463234

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Florida: Cert E871149 SEKS WET
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: COA
Pace Project No.: 30463234

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30463234001	Trip Blank	Water	02/07/22 00:00	02/07/22 22:00
30463234002	CO38-PZM006	Water	02/07/22 08:30	02/07/22 22:00
30463234003	CO38-PZM043	Water	02/07/22 09:15	02/07/22 22:00
30463234004	CO39-PZM042	Water	02/07/22 10:10	02/07/22 22:00
30463234005	CO39-PZM007	Water	02/07/22 11:20	02/07/22 22:00
30463234006	CO27-PZM012	Water	02/07/22 14:00	02/07/22 22:00
30463234007	CO27-PZM046	Water	02/07/22 14:45	02/07/22 22:00
30463234008	CO40-PZM008	Water	02/07/22 12:20	02/07/22 22:00

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SAMPLE ANALYTE COUNT

Project: COA
Pace Project No.: 30463234

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30463234001	Trip Blank	EPA 8260B	LEL	9	PASI-PA
30463234002	CO38-PZM006	EPA 8260B	LEL	9	PASI-PA
30463234003	CO38-PZM043	EPA 8260B	LEL	9	PASI-PA
30463234004	CO39-PZM042	EPA 8260B	LEL	9	PASI-PA
30463234005	CO39-PZM007	EPA 8260B	LEL	9	PASI-PA
30463234006	CO27-PZM012	EPA 8260B	LEL	9	PASI-PA
30463234007	CO27-PZM046	EPA 8260B	LEL	9	PASI-PA
30463234008	CO40-PZM008	EPA 8260B	LEL	9	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463234

Sample: Trip Blank		Lab ID: 30463234001		Collected: 02/07/22 00:00		Received: 02/07/22 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV		Analytical Method: EPA 8260B Pace Analytical Services - Greensburg							
Benzene	1.0 U	ug/L	1.0	0.34	1		02/15/22 13:49	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		02/15/22 13:49	100-41-4	
Naphthalene	2.0 U	ug/L	2.0	0.82	1		02/15/22 13:49	91-20-3	
Toluene	1.0 U	ug/L	1.0	0.32	1		02/15/22 13:49	108-88-3	
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		02/15/22 13:49	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	113	%	70-130		1		02/15/22 13:49	460-00-4	
1,2-Dichloroethane-d4 (S)	123	%	70-130		1		02/15/22 13:49	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		02/15/22 13:49	2037-26-5	
Dibromofluoromethane (S)	107	%	70-130		1		02/15/22 13:49	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463234

Sample: CO38-PZM006 **Lab ID: 30463234002** Collected: 02/07/22 08:30 Received: 02/07/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	5230	ug/L	50.0	16.9	50		02/15/22 18:07	71-43-2	
Ethylbenzene	56.4	ug/L	5.0	2.0	5		02/15/22 17:41	100-41-4	
Naphthalene	1180	ug/L	10.0	4.1	5		02/15/22 17:41	91-20-3	
Toluene	1210	ug/L	5.0	1.6	5		02/15/22 17:41	108-88-3	
Xylene (Total)	464	ug/L	15.0	6.8	5		02/15/22 17:41	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	115	%	70-130		5		02/15/22 17:41	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130		5		02/15/22 17:41	17060-07-0	
Toluene-d8 (S)	98	%	70-130		5		02/15/22 17:41	2037-26-5	
Dibromofluoromethane (S)	94	%	70-130		5		02/15/22 17:41	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463234

Sample: CO38-PZM043 **Lab ID: 30463234003** Collected: 02/07/22 09:15 Received: 02/07/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		02/15/22 15:33	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		02/15/22 15:33	100-41-4	
Naphthalene	2.0 U	ug/L	2.0	0.82	1		02/15/22 15:33	91-20-3	
Toluene	1.0 U	ug/L	1.0	0.32	1		02/15/22 15:33	108-88-3	
Xylene (Total)	2.1J	ug/L	3.0	1.4	1		02/15/22 15:33	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		02/15/22 15:33	460-00-4	
1,2-Dichloroethane-d4 (S)	128	%	70-130		1		02/15/22 15:33	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		02/15/22 15:33	2037-26-5	
Dibromofluoromethane (S)	112	%	70-130		1		02/15/22 15:33	1868-53-7	

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463234

Sample: CO39-PZM042 **Lab ID: 30463234004** Collected: 02/07/22 10:10 Received: 02/07/22 22:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	3690	ug/L	50.0	16.9	50		02/15/22 18:57	71-43-2	
Ethylbenzene	21.6	ug/L	5.0	2.0	5		02/15/22 18:32	100-41-4	
Naphthalene	666	ug/L	10.0	4.1	5		02/15/22 18:32	91-20-3	
Toluene	563	ug/L	5.0	1.6	5		02/15/22 18:32	108-88-3	
Xylene (Total)	174	ug/L	15.0	6.8	5		02/15/22 18:32	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	114	%	70-130		5		02/15/22 18:32	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130		5		02/15/22 18:32	17060-07-0	
Toluene-d8 (S)	98	%	70-130		5		02/15/22 18:32	2037-26-5	
Dibromofluoromethane (S)	93	%	70-130		5		02/15/22 18:32	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463234

Sample: CO39-PZM007 Lab ID: 30463234005 Collected: 02/07/22 11:20 Received: 02/07/22 22:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	891	ug/L	5.0	1.7	5		02/15/22 19:23	71-43-2	
Ethylbenzene	3.8J	ug/L	5.0	2.0	5		02/15/22 19:23	100-41-4	
Naphthalene	177	ug/L	10.0	4.1	5		02/15/22 19:23	91-20-3	
Toluene	123	ug/L	5.0	1.6	5		02/15/22 19:23	108-88-3	
Xylene (Total)	35.0	ug/L	15.0	6.8	5		02/15/22 19:23	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	117	%	70-130		5		02/15/22 19:23	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130		5		02/15/22 19:23	17060-07-0	
Toluene-d8 (S)	101	%	70-130		5		02/15/22 19:23	2037-26-5	
Dibromofluoromethane (S)	96	%	70-130		5		02/15/22 19:23	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463234

Sample: CO27-PZM012		Lab ID: 30463234006		Collected: 02/07/22 14:00		Received: 02/07/22 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	11000	ug/L	500	169	500		02/15/22 20:39	71-43-2	
Ethylbenzene	116	ug/L	5.0	2.0	5		02/15/22 20:14	100-41-4	
Naphthalene	645	ug/L	10.0	4.1	5		02/15/22 20:14	91-20-3	
Toluene	3080	ug/L	500	158	500		02/15/22 20:39	108-88-3	
Xylene (Total)	1000	ug/L	15.0	6.8	5		02/15/22 20:14	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	116	%	70-130		5		02/15/22 20:14	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-130		5		02/15/22 20:14	17060-07-0	
Toluene-d8 (S)	97	%	70-130		5		02/15/22 20:14	2037-26-5	
Dibromofluoromethane (S)	90	%	70-130		5		02/15/22 20:14	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463234

Sample: CO27-PZM046 **Lab ID: 30463234007** Collected: 02/07/22 14:45 Received: 02/07/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	19800	ug/L	100	33.8	100		02/15/22 17:16	71-43-2	
Ethylbenzene	263	ug/L	1.0	0.40	1		02/15/22 16:50	100-41-4	
Naphthalene	4460	ug/L	200	81.9	100		02/15/22 17:16	91-20-3	
Toluene	7000	ug/L	100	31.7	100		02/15/22 17:16	108-88-3	
Xylene (Total)	1810	ug/L	300	135	100		02/15/22 17:16	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		1		02/15/22 16:50	460-00-4	
1,2-Dichloroethane-d4 (S)	121	%	70-130		1		02/15/22 16:50	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		02/15/22 16:50	2037-26-5	
Dibromofluoromethane (S)	80	%	70-130		1		02/15/22 16:50	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463234

Sample: CO40-PZM008 **Lab ID: 30463234008** Collected: 02/07/22 12:20 Received: 02/07/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	2360	ug/L	50.0	16.9	50		02/15/22 16:24	71-43-2	
Ethylbenzene	18.0	ug/L	1.0	0.40	1		02/15/22 15:59	100-41-4	
Naphthalene	3720	ug/L	100	41.0	50		02/15/22 16:24	91-20-3	
Toluene	337	ug/L	1.0	0.32	1		02/15/22 15:59	108-88-3	
Xylene (Total)	154	ug/L	3.0	1.4	1		02/15/22 15:59	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	112	%	70-130		1		02/15/22 15:59	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	70-130		1		02/15/22 15:59	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		02/15/22 15:59	2037-26-5	
Dibromofluoromethane (S)	97	%	70-130		1		02/15/22 15:59	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: COA
Pace Project No.: 30463234

QC Batch: 484013 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30463234001, 30463234002, 30463234003, 30463234004, 30463234005, 30463234006, 30463234007, 30463234008

METHOD BLANK: 2340389 Matrix: Water
Associated Lab Samples: 30463234001, 30463234002, 30463234003, 30463234004, 30463234005, 30463234006, 30463234007, 30463234008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	1.0 U	1.0	0.34	02/15/22 12:57	
Ethylbenzene	ug/L	1.0 U	1.0	0.40	02/15/22 12:57	
Naphthalene	ug/L	2.0 U	2.0	0.82	02/15/22 12:57	
Toluene	ug/L	1.0 U	1.0	0.32	02/15/22 12:57	
Xylene (Total)	ug/L	3.0 U	3.0	1.4	02/15/22 12:57	
1,2-Dichloroethane-d4 (S)	%	121	70-130		02/15/22 12:57	
4-Bromofluorobenzene (S)	%	106	70-130		02/15/22 12:57	
Dibromofluoromethane (S)	%	105	70-130		02/15/22 12:57	
Toluene-d8 (S)	%	97	70-130		02/15/22 12:57	

LABORATORY CONTROL SAMPLE: 2340390

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.7	98	70-130	
Ethylbenzene	ug/L	20	20.7	103	70-130	
Naphthalene	ug/L	20	14.9	75	55-160	
Toluene	ug/L	20	19.5	98	70-130	
Xylene (Total)	ug/L	60	56.7	95	70-130	
1,2-Dichloroethane-d4 (S)	%			114	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			95	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2340391 2340392

Parameter	Units	30463589001		30463589002		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Spike Conc.	MSD Result							
Benzene	ug/L	ND	20	20	15.5	16.2	77	81	50-149	5	30	
Ethylbenzene	ug/L	ND	20	20	14.2	15.4	71	77	63-135	8	30	
Naphthalene	ug/L	ND	20	20	11.3	10.8	57	54	30-157	4	30	
Toluene	ug/L	ND	20	20	14.6	15.8	73	79	59-139	8	30	
Xylene (Total)	ug/L	ND	60	60	41.1	44.7	68	75	63-135	9	30	
1,2-Dichloroethane-d4 (S)	%						120	113	70-130			
4-Bromofluorobenzene (S)	%						102	98	70-130			
Dibromofluoromethane (S)	%						102	99	70-130			
Toluene-d8 (S)	%						99	99	70-130			

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: COA
Pace Project No.: 30463234

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COA
Pace Project No.: 30463234

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30463234001	Trip Blank	EPA 8260B	484013		
30463234002	CO38-PZM006	EPA 8260B	484013		
30463234003	CO38-PZM043	EPA 8260B	484013		
30463234004	CO39-PZM042	EPA 8260B	484013		
30463234005	CO39-PZM007	EPA 8260B	484013		
30463234006	CO27-PZM012	EPA 8260B	484013		
30463234007	CO27-PZM046	EPA 8260B	484013		
30463234008	CO40-PZM008	EPA 8260B	484013		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: Tradepoint Atlantic	Report To: Bob Tworowski	Company Name: Tradepoint Atlantic	Attention: Bob Tworowski	Page: _____ of _____	
Address: 1600 Sparrows Point Blvd	Copy To: Stew Kabis	Address: 1600 Sparrows Point Blvd - Sparrows Point, MD 21219			
Email To: Sparrows Point, MD 21219	PO Number:	Pace Quote Reference:			
Phone:	Project Name: COA	Pace Project Manager:			
Requested Due Date/TAT: 5 day	Project Number: 20010210	Pace Profile #:			

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW DRINKING WATER WT WATER WV WASTE WATER P PRODUCT SL SOLID OL OIL WIP WASTE AK AIR OT OTHER TS TISSUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Preservatives	Requested Analyte Filtered (Y/N)	Pace Project No. / Lab I.D.
					DATE	TIME				
1			WT			2/7/22				
2	Trip Blank Wt 1		WT			8:30				
3	C038-PZM006		WT			9:15				
4	C038-PZM043		WT			10:10				
5	C039-PZM042		WT			11:20				
6	C027-PZM007		WT			14:00				
7	C027-PZM012		WT			14:45				
8	C040-PZM046		WT			12:20				
9										
10										
11										
12										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		DATE	TIME	Sample Conditions
	SIGNATURE	DATE	SIGNATURE	DATE			
Data Package Required? (Y/N): No	[Signature]	2/7/22	[Signature]	2/7/22	15:00		
Data Validation Required? (Y/N): No	[Signature]	2/7/22	[Signature]	2/7/22	18:05		
If data package is required, attach data package checklist.	[Signature]	2/7/22	[Signature]	2/7/22	18:00		

Received on	Ice (Y/N)	Cooler Sealed	Cooler (Y/N)	Samples Intact



Pace Greensburg Lab -Sample Container Count

Client

Profile Number

13364

Site

Notes

Co9

Sample Line Item	Matrix	AG1H	AG1S	AG1T	AG2U	AG3S	AG3U	AG5U	AG5T	EG1U	EG2U	BP1N	BP1U	BP2S	BP2U	BP3C	BP3N	BP3S	BP3U	DG9S	GCUB	VG9H	VG9T	VG9U	VOAK	WGFU	WGKU	ZPLC
1	wt																					wt						
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

Container Codes

Glass	
GJN	1 Gallon Jug with HNO3
AG5U	100mL amber glass unpreserved
AG5T	100mL amber glass Na Thiosulfate
GJN	1 Gallon Jug
AG1S	1L amber glass H2SO4
AG1H	1L amber glass HCl
AG1T	1L amber glass Na Thiosulfate
BG1U	1L clear glass unpreserved
AG3S	250mL amber glass H2SO4
AG3U	250mL amber glass unpreserved
DG9S	40mL amber VOA vial H2SO4
VG9U	40mL clear VOA vial
VG9T	40mL clear VOA vial Na Thiosul
VG9H	40mL clear VOA vial HCl
JGFU	4oz amber wide jar
WGFU	4oz wide jar unpreserved
BG2U	500mL clear glass unpreserved
AG2U	500mL amber glass unpreserved
WGKU	8oz wide jar unpreserved

Plastic / Misc.	
GCUB	1 Gallon Cubitainer
12GN	1/2 Gallon Cubitainer
SP5T	120mL Coliform Na Thiosulfate
BP1N	1L plastic HNO3
BP1U	1L plastic unpreserved
BP3S	250mL plastic H2SO4
BP3N	250mL plastic HNO3
BP3U	250mL plastic unpreserved
BP3C	250mL plastic NaOH
BP2S	500mL plastic H2SO4
BP2U	500mL plastic unpreserved
EZI	5g Encore
VOAK	Kit for Volatile Solid
I	Wipe/Swab
ZPLC	Ziploc Bag
WT	Water
SL	Solid
OL	Non-aqueous liquid
WP	Wipe

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Tradeport Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Label <u>MA</u>
LIMS Login

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 15 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 3.7 °C Correction Factor: 0.6 °C Final Temp: 3.1 °C

Temp should be above freezing to 6°C

Comments:	pH paper Lot#			Date and Initials of person examining contents:		
	Yes	No	N/A			
Chain of Custody Present:	-			pH paper Lot# <u>MC</u> Date and Initials of person examining contents: <u>MA 2-8-22</u>		
Chain of Custody Filled Out:	-					
Chain of Custody Relinquished:	-					
Sampler Name & Signature on COC:	-					
Sample Labels match COC:	-					
-Includes date/time/ID Matrix: <u>MA</u>						
Samples Arrived within Hold Time:	-					
Short Hold Time Analysis (<72hr remaining):		-				
Rush Turn Around Time Requested:		-				
Sufficient Volume:	-					
Correct Containers Used:	-					
-Pace Containers Used:	-					
Containers Intact:	-					
Orthophosphate field filtered			-			
Hex Cr Aqueous sample field filtered			-			
Organic Samples checked for dechlorination:			-			
Filtered volume received for Dissolved tests			-			
All containers have been checked for preservation.		-				
exceptions: <u>VOA</u> , coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix						
All containers meet method preservation requirements.	-			Initial when completed: <u>MA</u>	Date/time of preservation	
				Lot # of added preservative		
Headspace in VOA Vials (>6mm):		-		17.		
Trip Blank Present:	-			18.		
Trip Blank Custody Seals Present	-					
Rad Samples Screened < 0.5 mrem/hr			-	Initial when completed: <u>MA</u>	Date: _____	Survey Meter SN: _____

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

February 17, 2022

Mr. Bob Tworkowski
TradePoint Atlantic
1600 Sparrow's Point Boulevard
Sparrows Point, MD 21219

RE: Project: COA
Pace Project No.: 30463737

Dear Mr. Tworkowski:

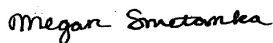
Enclosed are the analytical results for sample(s) received by the laboratory on February 08, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

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

Sincerely,



Megan J. Smetanka
megan.smetanka@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Kaye Guille, ARM Group Inc.
J.Price, ARM Group Inc.
Stewart Kabis, ARM Group Inc.
Mr. Eric S. Magdar, ARM Group Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: COA
Pace Project No.: 30463737

Pace Analytical Services Pennsylvania

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

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Florida: Cert E871149 SEKS WET

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: COA
Pace Project No.: 30463737

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30463737001	Trip Blank Wt 1	Water	02/02/22 00:01	02/08/22 22:00
30463737002	CO37-PZM038	Water	02/08/22 08:45	02/08/22 22:00
30463737003	CO18Z-MWI	Water	02/08/22 10:00	02/08/22 22:00
30463737004	CO42-PZM004	Water	02/08/22 11:30	02/08/22 22:00
30463737005	CO41-PZM001	Water	02/08/22 13:30	02/08/22 22:00
30463737006	CO41-PZM036	Water	02/08/22 14:50	02/08/22 22:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: COA
Pace Project No.: 30463737

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30463737001	Trip Blank Wt 1	EPA 8260B	AJC	9	PASI-PA
30463737002	CO37-PZM038	EPA 8260B	AJC	9	PASI-PA
30463737003	CO18Z-MWI	EPA 8260B	AJC, LEL	9	PASI-PA
30463737004	CO42-PZM004	EPA 8260B	AJC	9	PASI-PA
30463737005	CO41-PZM001	EPA 8260B	AJC	9	PASI-PA
30463737006	CO41-PZM036	EPA 8260B	AJC, LEL	9	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463737

Sample: Trip Blank Wt 1 Lab ID: 30463737001 Collected: 02/02/22 00:01 Received: 02/08/22 22:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		02/15/22 16:20	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		02/15/22 16:20	100-41-4	
Naphthalene	2.0 U	ug/L	2.0	0.82	1		02/15/22 16:20	91-20-3	
Toluene	1.0 U	ug/L	1.0	0.32	1		02/15/22 16:20	108-88-3	
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		02/15/22 16:20	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	117	%	70-130		1		02/15/22 16:20	460-00-4	
1,2-Dichloroethane-d4 (S)	125	%	70-130		1		02/15/22 16:20	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		02/15/22 16:20	2037-26-5	
Dibromofluoromethane (S)	110	%	70-130		1		02/15/22 16:20	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463737

Sample: CO37-PZM038 **Lab ID: 30463737002** Collected: 02/08/22 08:45 Received: 02/08/22 22:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	33700	ug/L	500	169	500		02/15/22 22:38	71-43-2	
Ethylbenzene	257	ug/L	5.0	2.0	5		02/15/22 22:13	100-41-4	
Naphthalene	1560	ug/L	10.0	4.1	5		02/15/22 22:13	91-20-3	
Toluene	17600	ug/L	500	158	500		02/15/22 22:38	108-88-3	
Xylene (Total)	2130	ug/L	15.0	6.8	5		02/15/22 22:13	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		5		02/15/22 22:13	460-00-4	
1,2-Dichloroethane-d4 (S)	124	%	70-130		5		02/15/22 22:13	17060-07-0	
Toluene-d8 (S)	94	%	70-130		5		02/15/22 22:13	2037-26-5	
Dibromofluoromethane (S)	104	%	70-130		5		02/15/22 22:13	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463737

Sample: CO18Z-MWI		Lab ID: 30463737003		Collected: 02/08/22 10:00		Received: 02/08/22 22:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV		Analytical Method: EPA 8260B Pace Analytical Services - Greensburg							
Benzene	344000	ug/L	10000	3380	10000		02/16/22 18:18	71-43-2	
Ethylbenzene	666	ug/L	5.0	2.0	5		02/15/22 23:03	100-41-4	
Naphthalene	260	ug/L	10.0	4.1	5		02/15/22 23:03	91-20-3	
Toluene	69400	ug/L	1000	317	1000		02/15/22 23:28	108-88-3	
Xylene (Total)	17600	ug/L	3000	1350	1000		02/15/22 23:28	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		5		02/15/22 23:03	460-00-4	
1,2-Dichloroethane-d4 (S)	125	%	70-130		5		02/15/22 23:03	17060-07-0	
Toluene-d8 (S)	94	%	70-130		5		02/15/22 23:03	2037-26-5	
Dibromofluoromethane (S)	103	%	70-130		5		02/15/22 23:03	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463737

Sample: CO42-PZM004 **Lab ID: 30463737004** Collected: 02/08/22 11:30 Received: 02/08/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	3.4	ug/L	1.0	0.34	1		02/15/22 20:07	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		02/15/22 20:07	100-41-4	
Naphthalene	2.0 U	ug/L	2.0	0.82	1		02/15/22 20:07	91-20-3	
Toluene	6.5	ug/L	1.0	0.32	1		02/15/22 20:07	108-88-3	
Xylene (Total)	2.6J	ug/L	3.0	1.4	1		02/15/22 20:07	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	114	%	70-130		1		02/15/22 20:07	460-00-4	
1,2-Dichloroethane-d4 (S)	126	%	70-130		1		02/15/22 20:07	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		02/15/22 20:07	2037-26-5	
Dibromofluoromethane (S)	108	%	70-130		1		02/15/22 20:07	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463737

Sample: CO41-PZM001 Lab ID: 30463737005 Collected: 02/08/22 13:30 Received: 02/08/22 22:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	2130	ug/L	100	33.8	100		02/15/22 21:48	71-43-2	
Ethylbenzene	63.2	ug/L	1.0	0.40	1		02/15/22 21:22	100-41-4	
Naphthalene	23.2	ug/L	2.0	0.82	1		02/15/22 21:22	91-20-3	
Toluene	1230	ug/L	100	31.7	100		02/15/22 21:48	108-88-3	
Xylene (Total)	524	ug/L	3.0	1.4	1		02/15/22 21:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		02/15/22 21:22	460-00-4	
1,2-Dichloroethane-d4 (S)	120	%	70-130		1		02/15/22 21:22	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		02/15/22 21:22	2037-26-5	
Dibromofluoromethane (S)	103	%	70-130		1		02/15/22 21:22	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463737

Sample: CO41-PZM036 **Lab ID: 30463737006** Collected: 02/08/22 14:50 Received: 02/08/22 22:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	447000	ug/L	10000	3380	10000		02/16/22 18:45	71-43-2	
Ethylbenzene	732	ug/L	5.0	2.0	5		02/15/22 23:53	100-41-4	
Naphthalene	298	ug/L	10.0	4.1	5		02/15/22 23:53	91-20-3	
Toluene	614000	ug/L	2000	634	2000		02/16/22 00:18	108-88-3	
Xylene (Total)	129000	ug/L	6000	2700	2000		02/16/22 00:18	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		5		02/15/22 23:53	460-00-4	
1,2-Dichloroethane-d4 (S)	124	%	70-130		5		02/15/22 23:53	17060-07-0	
Toluene-d8 (S)	86	%	70-130		5		02/15/22 23:53	2037-26-5	
Dibromofluoromethane (S)	101	%	70-130		5		02/15/22 23:53	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: COA
Pace Project No.: 30463737

QC Batch: 484060 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30463737001, 30463737002, 30463737003, 30463737004, 30463737005, 30463737006

METHOD BLANK: 2340677 Matrix: Water
Associated Lab Samples: 30463737001, 30463737002, 30463737003, 30463737004, 30463737005, 30463737006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	1.0 U	1.0	0.34	02/15/22 15:04	
Ethylbenzene	ug/L	1.0 U	1.0	0.40	02/15/22 15:04	
Naphthalene	ug/L	2.0 U	2.0	0.82	02/15/22 15:04	
Toluene	ug/L	1.0 U	1.0	0.32	02/15/22 15:04	
Xylene (Total)	ug/L	3.0 U	3.0	1.4	02/15/22 15:04	
1,2-Dichloroethane-d4 (S)	%	124	70-130		02/15/22 15:04	
4-Bromofluorobenzene (S)	%	114	70-130		02/15/22 15:04	
Dibromofluoromethane (S)	%	109	70-130		02/15/22 15:04	
Toluene-d8 (S)	%	95	70-130		02/15/22 15:04	

LABORATORY CONTROL SAMPLE: 2340678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.8	94	70-130	
Ethylbenzene	ug/L	20	19.9	100	70-130	
Naphthalene	ug/L	20	20.7	104	55-160	
Toluene	ug/L	20	19.3	97	70-130	
Xylene (Total)	ug/L	60	61.2	102	70-130	
1,2-Dichloroethane-d4 (S)	%			127	70-130	
4-Bromofluorobenzene (S)	%			109	70-130	
Dibromofluoromethane (S)	%			109	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2340679 2340680

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		30462492001 Result	Spike Conc.	Spike Conc.	MS Result							
Benzene	ug/L	ND	20	20	23.3	23.3	114	114	50-149	0	30	
Ethylbenzene	ug/L	ND	20	20	18.8	21.1	93	104	63-135	11	30	
Naphthalene	ug/L	ND	20	20	18.2	20.1	91	100	30-157	10	30	
Toluene	ug/L	0.0013 mg/L	20	20	22.3	23.7	105	112	59-139	6	30	
Xylene (Total)	ug/L	ND	60	60	59.2	65.7	96	107	63-135	10	30	
1,2-Dichloroethane-d4 (S)	%						121	124	70-130			
4-Bromofluorobenzene (S)	%						114	112	70-130			
Dibromofluoromethane (S)	%						105	107	70-130			
Toluene-d8 (S)	%						97	97	70-130			

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: COA
Pace Project No.: 30463737

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COA
Pace Project No.: 30463737

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30463737001	Trip Blank Wt 1	EPA 8260B	484060		
30463737002	CO37-PZM038	EPA 8260B	484060		
30463737003	CO18Z-MWI	EPA 8260B	484060		
30463737004	CO42-PZM004	EPA 8260B	484060		
30463737005	CO41-PZM001	EPA 8260B	484060		
30463737006	CO41-PZM036	EPA 8260B	484060		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A
Required Client Information:
Company: Tradepoint Atlantic
Address: 1600 Sparrows Point Blvd
Sparrows Point, MD 21219
Email To:
Phone:
Fax:
Requested Due Date/TAT: 5 day

Section B
Required Project Information:
Report To: Bob Tworkowski
Copy To: Stew Kabis
PO Number:
Project Name: COA
Project Number: 20010210

Section C
Invoice Information:
Attention: Bob Tworkowski
Company Name: Tradepoint Atlantic
Address: 1600 Sparrows Point Blvd, Sparrows Point, MD 21219
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location
WO#: 30463737



ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB						
1		WT		DATE: 2/18/22	TIME: 15:45		2	HNO ₃ HCl NaOH Na ₂ O ₂ Other			
2	Trip Blank Wt 1	WT		DATE: 2/18/22	TIME: 10:00		3				
3	C037-PZM038	WT		DATE: 2/18/22	TIME: 11:30		3				
4	C0182-WWF	WT		DATE: 2/18/22	TIME: 13:30		3				
5	C042-PZM004	WT		DATE: 2/18/22	TIME: 14:50		3				
6	C041-PZM001	WT		DATE: 2/18/22	TIME: 15:45		3				
7	C041-PZM036	WT		DATE: 2/18/22	TIME: 18:45		3				
8											
9											
10											
11											
12							17				

ADDITIONAL COMMENTS
 Data Package Required? (Y/N): No
 Data Validation Required? (Y/N): No
 If data package is required, attach data package checklist.

RELINQUISHED BY / AFFILIATION
 Signature: [Signature]
 Date: 2/18/22
 Time: 15:45
 Affiliation: GAMB PACE

ACCEPTED BY / AFFILIATION
 Signature: [Signature]
 Date: 2/18/22
 Time: 18:45
 Affiliation: KDS LLC

DATE
 2/18/22
 2/18/22
 2/18/22

TIME
 15:45
 18:45
 22:00

SAMPLE NAME AND SIGNATURE
 PRINT Name of SAMPLER: Lisa Perfan
 SIGNATURE OF SAMPLER: [Signature]
 DATE Signed (MM/DD/YY): 2/18/22

Received on (Y/N)
Cooler Sealed (Y/N)
Samples Intact (Y/N)

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: TradePoint

Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Label M
LIMS Login

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 14 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.4 °C Correction Factor: 0 °C Final Temp: 2.4 °C

Temp should be above freezing to 6°C

PM: MS1
CLIENT: TRADEPOINT
Due Date: 02/16/22

MO#: 30463737

Comments:	Yes	No	N/A	pH paper Lot#	Date and Initials of person examining contents:	
				<u>M</u>	<u>M 7-9-22</u>	
Chain of Custody Present:	-			1.		
Chain of Custody Filled Out:	-			2.		
Chain of Custody Relinquished:	-			3.		
Sampler Name & Signature on COC:	-			4.		
Sample Labels match COC:	-			5.		
-Includes date/time/ID Matrix: <u>wt</u>						
Samples Arrived within Hold Time:	-			6.		
Short Hold Time Analysis (<72hr remaining):		-		7.		
Rush Turn Around Time Requested:	-			8.		
Sufficient Volume:	-			9.		
Correct Containers Used:	-			10.		
-Pace Containers Used:	-					
Containers Intact:	-			11.		
Orthophosphate field filtered			-	12.		
Hex Cr Aqueous sample field filtered			-	13.		
Organic Samples checked for dechlorination:			-	14.		
Filtered volume received for Dissolved tests			-	15.		
All containers have been checked for preservation.		-		16.		
exceptions: <u>VOA</u> , coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix						
All containers meet method preservation requirements.	-			Initial when completed	<u>M</u>	Date/time of preservation
				Lot # of added preservative		
Headspace in VOA Vials (>6mm):		-		17.		
Trip Blank Present:	-			18.		
Trip Blank Custody Seals Present	-					
Rad Samples Screened < 0.5 mrem/hr			-	Initial when completed:	Date:	Survey Meter SN:

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

February 17, 2022

Mr. Bob Tworkowski
TradePoint Atlantic
1600 Sparrow's Point Boulevard
Sparrows Point, MD 21219

RE: Project: COA
Pace Project No.: 30463977

Dear Mr. Tworkowski:

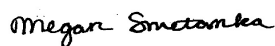
Enclosed are the analytical results for sample(s) received by the laboratory on February 09, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

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

Sincerely,



Megan J. Smetanka
megan.smetanka@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Kaye Guille, ARM Group Inc.
J.Price, ARM Group Inc.
Stewart Kabis, ARM Group Inc.
Mr. Eric S. Magdar, ARM Group Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: COA
Pace Project No.: 30463977

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Florida: Cert E871149 SEKS WET
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991

Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: COA
Pace Project No.: 30463977

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30463977001	Trip Blank Wt 1	Water	02/09/22 00:01	02/09/22 22:50
30463977002	CO57-PZP002	Water	02/09/22 09:00	02/09/22 22:50
30463977003	CO56-PZP001	Water	02/09/22 10:30	02/09/22 22:50
30463977004	CO55-PZM000	Water	02/09/22 11:25	02/09/22 22:50
30463977005	CO26-PZM007	Water	02/09/22 12:45	02/09/22 22:50
30463977006	CO58-PZM001	Water	02/09/22 13:50	02/09/22 22:50
30463977007	CO93-PZM	Water	02/09/22 15:20	02/09/22 22:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: COA
Pace Project No.: 30463977

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30463977001	Trip Blank Wt 1	EPA 8260B	LEL	9	PASI-PA
30463977002	CO57-PZP002	EPA 8260B	LEL	9	PASI-PA
30463977003	CO56-PZP001	EPA 8260B	LEL	9	PASI-PA
30463977004	CO55-PZM000	EPA 8260B	LEL	9	PASI-PA
30463977005	CO26-PZM007	EPA 8260B	LEL	9	PASI-PA
30463977006	CO58-PZM001	EPA 8260B	LEL	9	PASI-PA
30463977007	CO93-PZM	EPA 8260B	LEL	9	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463977

Sample: Trip Blank Wt 1 Lab ID: 30463977001 Collected: 02/09/22 00:01 Received: 02/09/22 22:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		02/16/22 13:01	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		02/16/22 13:01	100-41-4	
Naphthalene	2.0 U	ug/L	2.0	0.82	1		02/16/22 13:01	91-20-3	CL
Toluene	1.0 U	ug/L	1.0	0.32	1		02/16/22 13:01	108-88-3	
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		02/16/22 13:01	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		02/16/22 13:01	460-00-4	
1,2-Dichloroethane-d4 (S)	119	%	70-130		1		02/16/22 13:01	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		02/16/22 13:01	2037-26-5	
Dibromofluoromethane (S)	111	%	70-130		1		02/16/22 13:01	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463977

Sample: CO57-PZP002 **Lab ID: 30463977002** Collected: 02/09/22 09:00 Received: 02/09/22 22:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		02/16/22 13:54	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		02/16/22 13:54	100-41-4	
Naphthalene	2.0 U	ug/L	2.0	0.82	1		02/16/22 13:54	91-20-3	CL
Toluene	1.0 U	ug/L	1.0	0.32	1		02/16/22 13:54	108-88-3	
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		02/16/22 13:54	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	108	%	70-130		1		02/16/22 13:54	460-00-4	
1,2-Dichloroethane-d4 (S)	122	%	70-130		1		02/16/22 13:54	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1		02/16/22 13:54	2037-26-5	
Dibromofluoromethane (S)	119	%	70-130		1		02/16/22 13:54	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463977

Sample: CO56-PZP001 **Lab ID: 30463977003** Collected: 02/09/22 10:30 Received: 02/09/22 22:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	245	ug/L	5.0	1.7	5		02/16/22 16:32	71-43-2	
Ethylbenzene	9.2	ug/L	5.0	2.0	5		02/16/22 16:32	100-41-4	
Naphthalene	2310	ug/L	100	41.0	50		02/16/22 16:59	91-20-3	CL
Toluene	87.9	ug/L	5.0	1.6	5		02/16/22 16:32	108-88-3	
Xylene (Total)	183	ug/L	15.0	6.8	5		02/16/22 16:32	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	108	%	70-130		5		02/16/22 16:32	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	70-130		5		02/16/22 16:32	17060-07-0	
Toluene-d8 (S)	97	%	70-130		5		02/16/22 16:32	2037-26-5	
Dibromofluoromethane (S)	107	%	70-130		5		02/16/22 16:32	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463977

Sample: CO55-PZM000 **Lab ID: 30463977004** Collected: 02/09/22 11:25 Received: 02/09/22 22:50 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	74.0	ug/L	1.0	0.34	1		02/16/22 14:20	71-43-2	
Ethylbenzene	2.9	ug/L	1.0	0.40	1		02/16/22 14:20	100-41-4	
Naphthalene	245	ug/L	2.0	0.82	1		02/16/22 14:20	91-20-3	CL
Toluene	38.0	ug/L	1.0	0.32	1		02/16/22 14:20	108-88-3	
Xylene (Total)	49.5	ug/L	3.0	1.4	1		02/16/22 14:20	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	109	%	70-130		1		02/16/22 14:20	460-00-4	
1,2-Dichloroethane-d4 (S)	118	%	70-130		1		02/16/22 14:20	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		02/16/22 14:20	2037-26-5	
Dibromofluoromethane (S)	116	%	70-130		1		02/16/22 14:20	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463977

Sample: CO26-PZM007 Lab ID: 30463977005 Collected: 02/09/22 12:45 Received: 02/09/22 22:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	331	ug/L	1.0	0.34	1		02/16/22 14:46	71-43-2	
Ethylbenzene	10.6	ug/L	1.0	0.40	1		02/16/22 14:46	100-41-4	
Naphthalene	3380	ug/L	20.0	8.2	10		02/16/22 15:13	91-20-3	CL
Toluene	175	ug/L	1.0	0.32	1		02/16/22 14:46	108-88-3	
Xylene (Total)	258	ug/L	3.0	1.4	1		02/16/22 14:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		02/16/22 14:46	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	70-130		1		02/16/22 14:46	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		02/16/22 14:46	2037-26-5	
Dibromofluoromethane (S)	105	%	70-130		1		02/16/22 14:46	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463977

Sample: CO58-PZM001 **Lab ID: 30463977006** Collected: 02/09/22 13:50 Received: 02/09/22 22:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	128	ug/L	1.0	0.34	1		02/16/22 15:39	71-43-2	
Ethylbenzene	5.4	ug/L	1.0	0.40	1		02/16/22 15:39	100-41-4	
Naphthalene	1200	ug/L	40.0	16.4	20		02/16/22 16:05	91-20-3	CL
Toluene	43.2	ug/L	1.0	0.32	1		02/16/22 15:39	108-88-3	
Xylene (Total)	91.1	ug/L	3.0	1.4	1		02/16/22 15:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	115	%	70-130		1		02/16/22 15:39	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-130		1		02/16/22 15:39	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		02/16/22 15:39	2037-26-5	
Dibromofluoromethane (S)	103	%	70-130		1		02/16/22 15:39	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30463977

Sample: CO93-PZM		Lab ID: 30463977007		Collected: 02/09/22 15:20		Received: 02/09/22 22:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV		Analytical Method: EPA 8260B Pace Analytical Services - Greensburg							
Benzene	156000	ug/L	1000	338	1000		02/16/22 17:52	71-43-2	
Ethylbenzene	1060	ug/L	5.0	2.0	5		02/16/22 17:26	100-41-4	
Naphthalene	1660	ug/L	10.0	4.1	5		02/16/22 17:26	91-20-3	CL
Toluene	44200	ug/L	1000	317	1000		02/16/22 17:52	108-88-3	
Xylene (Total)	10700	ug/L	3000	1350	1000		02/16/22 17:52	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		5		02/16/22 17:26	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	70-130		5		02/16/22 17:26	17060-07-0	
Toluene-d8 (S)	97	%	70-130		5		02/16/22 17:26	2037-26-5	
Dibromofluoromethane (S)	83	%	70-130		5		02/16/22 17:26	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: COA
Pace Project No.: 30463977

QC Batch: 484240 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30463977001, 30463977002, 30463977003, 30463977004, 30463977005, 30463977006, 30463977007

METHOD BLANK: 2341680 Matrix: Water
Associated Lab Samples: 30463977001, 30463977002, 30463977003, 30463977004, 30463977005, 30463977006, 30463977007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	1.0 U	1.0	0.34	02/16/22 11:18	
Ethylbenzene	ug/L	1.0 U	1.0	0.40	02/16/22 11:18	
Naphthalene	ug/L	2.0 U	2.0	0.82	02/16/22 11:18	CL
Toluene	ug/L	1.0 U	1.0	0.32	02/16/22 11:18	
Xylene (Total)	ug/L	3.0 U	3.0	1.4	02/16/22 11:18	
1,2-Dichloroethane-d4 (S)	%	121	70-130		02/16/22 11:18	
4-Bromofluorobenzene (S)	%	107	70-130		02/16/22 11:18	
Dibromofluoromethane (S)	%	113	70-130		02/16/22 11:18	
Toluene-d8 (S)	%	99	70-130		02/16/22 11:18	

LABORATORY CONTROL SAMPLE: 2341681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.9	99	70-130	
Ethylbenzene	ug/L	20	19.0	95	70-130	
Naphthalene	ug/L	20	12.7	64	55-160	CL
Toluene	ug/L	20	18.9	95	70-130	
Xylene (Total)	ug/L	60	54.4	91	70-130	
1,2-Dichloroethane-d4 (S)	%			108	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Dibromofluoromethane (S)	%			102	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2341682 2341683

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		30463595001 Result	Spike Conc.	Spike Conc.	Result						
Benzene	ug/L	ND	20	20	18.7	14.4	93	72	50-149	26	30
Ethylbenzene	ug/L	ND	20	20	17.7	13.0	89	65	63-135	31	30 R1
Naphthalene	ug/L	ND	20	20	11.0	9.1	55	46	30-157	19	30 CL
Toluene	ug/L	ND	20	20	17.2	13.0	86	65	59-139	28	30
Xylene (Total)	ug/L	ND	60	60	51.0	38.1	85	63	63-135	29	30 RS
1,2-Dichloroethane-d4 (S)	%						111	112	70-130		
4-Bromofluorobenzene (S)	%						109	104	70-130		
Dibromofluoromethane (S)	%						104	101	70-130		
Toluene-d8 (S)	%						96	98	70-130		

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: COA
Pace Project No.: 30463977

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

R1 RPD value was outside control limits.

RS The RPD value in one of the constituent analytes was outside the control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COA
Pace Project No.: 30463977

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30463977001	Trip Blank Wt 1	EPA 8260B	484240		
30463977002	CO57-PZP002	EPA 8260B	484240		
30463977003	CO56-PZP001	EPA 8260B	484240		
30463977004	CO55-PZM000	EPA 8260B	484240		
30463977005	CO26-PZM007	EPA 8260B	484240		
30463977006	CO58-PZM001	EPA 8260B	484240		
30463977007	CO93-PZM	EPA 8260B	484240		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be complete.

NO# : 30463977



30463977

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Tradepoint Atlantic	Report To:	Bob Tworowski	Attention:	Bob Tworowski
Address:	1600 Sparrows Point Blvd	Copy To:	Stew Kabis	Company Name:	Tradepoint Atlantic
	Sparrows Point, MD 21219			Address:	1600 Sparrows Point Blvd, Sparrows Point, MD 21219
Email To:		PO Number:		Pace Date:	
Phone:		Project Name:	COA	Reference:	
				Pace Project Manager:	
Requested Due Date/TAI:	5 day	Project Number:	20010210	Pace Profile #:	
REGULATORY AGENCY			Requested Analysis Filtered (Y/N)		
<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER			<input type="checkbox"/> BTEX and naphthalene via 8260 <input type="checkbox"/> Residual Chlorine (Y/N)		
Site Location: MD STATE:					

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.	
					COMPOSITE START	COMPOSITE END/STAMP			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃					Other
1	Trip Blank Wt 1	DW WT WW P SL OL W/PE AIR OTHER TSS	WT	G	DATE	TIME	DATE	TIME	2										
2	CO57-P2P002		WT	G	2/19/22	15:45	2/19/22	15:45	3										
3	CO56-P2M001		WT	G	2/19/22	19:45	2/19/22	19:45	3										
4	CO55-P2M000		WT	G	2/19/22	19:45	2/19/22	19:45	3										
5	CO26-P2M007		WT	G	2/19/22	19:45	2/19/22	19:45	3										
6	CO58-P2M001		WT	G	2/19/22	19:45	2/19/22	19:45	3										
7	CO93-P2M		WT	G	2/19/22	19:45	2/19/22	19:45	3										
8																			
9																			
10																			
11																			
12																			

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME	
Data Package Required? (Y/N): No		Lisa Perron		2/19/22		15:45		Lisa Perron		2/19/22		15:45	
Data Validation Required? (Y/N): No		KIMBERLY PACE		2/19/22		19:45		RDS PACE		2/19/22		19:45	
Data Package Required? (Y/N): No		RDS PACE		2/19/22		19:45		Maurice J. Perry		2-9-2022		2:50	

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	Lisa Perron
SIGNATURE of SAMPLER:	<i>Lisa Perron</i>
DATE Signed (MM/DD/YY):	2/19/22

Received on Ice (Y/N)	Y
Custody Sealed Cooler (Y/N)	Y
Samples Intact (Y/N)	Y

CO1
CO2
CO3
CO4
CO5
CO6
CO7

The printed Name By signature box form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any payments not paid within 30 days. F-ALL-Q-020-v.06.2-F.10-2007

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: TradePoint Atlantic Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: N/A

Label	<u>MCC</u>
LIMS Login	<u>MCC</u>

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 13 Type of Ice: (Wet) Blue None

Cooler Temperature Observed Temp 2.2 °C Correction Factor: -0.5 °C Final Temp: 1.7 °C

Temp should be above freezing to 6°C

Comments:	pH paper Lot#			Date and initials of person examining contents: <u>MCC 2/2/2002</u>
	Yes	No	N/A	
Chain of Custody Present:	/			1.
Chain of Custody Filled Out:	/			2.
Chain of Custody Relinquished:	/			3.
Sampler Name & Signature on COC:	/			4.
Sample Labels match COC: -Includes date/time/ID Matrix: <u>WT</u>	/			5.
Samples Arrived within Hold Time:	/			6.
Short Hold Time Analysis (<72hr remaining):		/		7.
Rush Turn Around Time Requested:		/		8.
Sufficient Volume:	/			9.
Correct Containers Used: -Pace Containers Used:	/			10.
Containers Intact:	/			11.
Orthophosphate field filtered			/	12.
Hex Cr Aqueous sample field filtered			/	13.
Organic Samples checked for dechlorination:			/	14.
Filtered volume received for Dissolved tests			/	15.
All containers have been checked for preservation. exceptions: <u>VOA</u> , coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix		/		16.
All containers meet method preservation requirements.	/			Initial when completed: <u>MCC</u> Date/time of preservation: _____
				Lot # of added preservative: _____
Headspace in VOA Vials (>6mm):		/		17.
Trip Blank Present:	/			18.
Trip Blank Custody Seals Present	/			
Rad Samples Screened < 0.5 mrem/hr			/	Initial when completed: _____ Date: _____ Survey Meter SN: _____

Client Notification/ Resolution:
 Person Contacted: _____ Date/Time: _____ Contacted By: _____
 Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

WO#: 30463977

PM: MS1 Due Date: 02/17/22
CLIENT: TRADEPOINT

February 18, 2022

Mr. Bob Tworkowski
TradePoint Atlantic
1600 Sparrow's Point Boulevard
Sparrows Point, MD 21219

RE: Project: COA
Pace Project No.: 30464491

Dear Mr. Tworkowski:

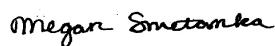
Enclosed are the analytical results for sample(s) received by the laboratory on February 10, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

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

Sincerely,



Megan J. Smetanka
megan.smetanka@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Kaye Guille, ARM Group Inc.
J.Price, ARM Group Inc.
Stewart Kabis, ARM Group Inc.
Mr. Eric S. Magdar, ARM Group Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: COA
Pace Project No.: 30464491

Pace Analytical Services Pennsylvania

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

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Florida: Cert E871149 SEKS WET

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: COA
Pace Project No.: 30464491

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30464491001	Trip Blank Wt 1	Water	02/10/22 00:01	02/10/22 23:55
30464491002	CO59-PZP002	Water	02/10/22 08:50	02/10/22 23:55
30464491003	CO190-MWS	Water	02/10/22 11:30	02/10/22 23:55
30464491004	CO30-PZM015	Water	02/10/22 13:25	02/10/22 23:55
30464491005	CO195-MWS	Water	02/10/22 14:55	02/10/22 23:55

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: COA
Pace Project No.: 30464491

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30464491001	Trip Blank Wt 1	EPA 8260B	LEL	9	PASI-PA
30464491002	CO59-PZP002	EPA 8260B	LEL	9	PASI-PA
30464491003	CO190-MWS	EPA 8260B	LEL	9	PASI-PA
30464491004	CO30-PZM015	EPA 8260B	LEL	9	PASI-PA
30464491005	CO195-MWS	EPA 8260B	LEL	9	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30464491

Sample: Trip Blank Wt 1		Lab ID: 30464491001		Collected: 02/10/22 00:01	Received: 02/10/22 23:55	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV		Analytical Method: EPA 8260B Pace Analytical Services - Greensburg							
Benzene	1.0 U	ug/L	1.0	0.34	1		02/16/22 12:48	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		02/16/22 12:48	100-41-4	
Naphthalene	2.0 U	ug/L	2.0	0.82	1		02/16/22 12:48	91-20-3	
Toluene	1.0 U	ug/L	1.0	0.32	1		02/16/22 12:48	108-88-3	
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		02/16/22 12:48	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	111	%	70-130		1		02/16/22 12:48	460-00-4	
1,2-Dichloroethane-d4 (S)	130	%	70-130		1		02/16/22 12:48	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		02/16/22 12:48	2037-26-5	
Dibromofluoromethane (S)	115	%	70-130		1		02/16/22 12:48	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30464491

Sample: CO59-PZP002 Lab ID: 30464491002 Collected: 02/10/22 08:50 Received: 02/10/22 23:55 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		02/16/22 15:26	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		02/16/22 15:26	100-41-4	
Naphthalene	1.2J	ug/L	2.0	0.82	1		02/16/22 15:26	91-20-3	
Toluene	1.0 U	ug/L	1.0	0.32	1		02/16/22 15:26	108-88-3	
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		02/16/22 15:26	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	129	%	70-130		1		02/16/22 15:26	460-00-4	
1,2-Dichloroethane-d4 (S)	125	%	70-130		1		02/16/22 15:26	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		02/16/22 15:26	2037-26-5	
Dibromofluoromethane (S)	111	%	70-130		1		02/16/22 15:26	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30464491

Sample: CO190-MWS		Lab ID: 30464491003		Collected: 02/10/22 11:30		Received: 02/10/22 23:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV		Analytical Method: EPA 8260B Pace Analytical Services - Greensburg							
Benzene	645000	ug/L	2000	676	2000		02/17/22 15:40	71-43-2	
Ethylbenzene	38.9	ug/L	5.0	2.0	5		02/16/22 18:05	100-41-4	
Naphthalene	173	ug/L	10.0	4.1	5		02/16/22 18:05	91-20-3	
Toluene	35200	ug/L	1000	317	1000		02/16/22 18:31	108-88-3	
Xylene (Total)	1040	ug/L	15.0	6.8	5		02/16/22 18:05	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	112	%	70-130		5		02/16/22 18:05	460-00-4	
1,2-Dichloroethane-d4 (S)	123	%	70-130		5		02/16/22 18:05	17060-07-0	
Toluene-d8 (S)	102	%	70-130		5		02/16/22 18:05	2037-26-5	
Dibromofluoromethane (S)	86	%	70-130		5		02/16/22 18:05	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30464491

Sample: CO30-PZM015 **Lab ID: 30464491004** Collected: 02/10/22 13:25 Received: 02/10/22 23:55 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	62800	ug/L	500	169	500		02/16/22 17:39	71-43-2	
Ethylbenzene	107	ug/L	5.0	2.0	5		02/16/22 17:12	100-41-4	
Naphthalene	4810	ug/L	1000	410	500		02/16/22 17:39	91-20-3	
Toluene	5720	ug/L	500	158	500		02/16/22 17:39	108-88-3	
Xylene (Total)	1670	ug/L	15.0	6.8	5		02/16/22 17:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	113	%	70-130		5		02/16/22 17:12	460-00-4	
1,2-Dichloroethane-d4 (S)	121	%	70-130		5		02/16/22 17:12	17060-07-0	
Toluene-d8 (S)	100	%	70-130		5		02/16/22 17:12	2037-26-5	
Dibromofluoromethane (S)	96	%	70-130		5		02/16/22 17:12	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA
Pace Project No.: 30464491

Sample: CO195-MWS		Lab ID: 30464491005		Collected: 02/10/22 14:55		Received: 02/10/22 23:55		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	49000	ug/L	200	67.6	200		02/16/22 16:46	71-43-2	
Ethylbenzene	76.0	ug/L	5.0	2.0	5		02/16/22 16:19	100-41-4	
Naphthalene	2760	ug/L	400	164	200		02/16/22 16:46	91-20-3	
Toluene	3860	ug/L	200	63.4	200		02/16/22 16:46	108-88-3	
Xylene (Total)	1160	ug/L	15.0	6.8	5		02/16/22 16:19	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	120	%	70-130		5		02/16/22 16:19	460-00-4	
1,2-Dichloroethane-d4 (S)	119	%	70-130		5		02/16/22 16:19	17060-07-0	
Toluene-d8 (S)	100	%	70-130		5		02/16/22 16:19	2037-26-5	
Dibromofluoromethane (S)	96	%	70-130		5		02/16/22 16:19	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: COA
Pace Project No.: 30464491

QC Batch: 484244 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30464491001, 30464491002, 30464491003, 30464491004, 30464491005

METHOD BLANK: 2341685 Matrix: Water
Associated Lab Samples: 30464491001, 30464491002, 30464491003, 30464491004, 30464491005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	1.0 U	1.0	0.34	02/16/22 11:30	
Ethylbenzene	ug/L	1.0 U	1.0	0.40	02/16/22 11:30	
Naphthalene	ug/L	2.0 U	2.0	0.82	02/16/22 11:30	
Toluene	ug/L	1.0 U	1.0	0.32	02/16/22 11:30	
Xylene (Total)	ug/L	3.0 U	3.0	1.4	02/16/22 11:30	
1,2-Dichloroethane-d4 (S)	%	123	70-130		02/16/22 11:30	
4-Bromofluorobenzene (S)	%	106	70-130		02/16/22 11:30	
Dibromofluoromethane (S)	%	111	70-130		02/16/22 11:30	
Toluene-d8 (S)	%	103	70-130		02/16/22 11:30	

LABORATORY CONTROL SAMPLE: 2341686

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.7	89	70-130	
Ethylbenzene	ug/L	20	19.3	96	70-130	
Naphthalene	ug/L	20	16.9	85	55-160	
Toluene	ug/L	20	19.1	95	70-130	
Xylene (Total)	ug/L	60	56.6	94	70-130	
1,2-Dichloroethane-d4 (S)	%			108	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			97	70-130	
Toluene-d8 (S)	%			104	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2341687 2341688

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		30462868001 Result	Spike Conc.	Spike Conc.	Result						
Benzene	ug/L	<1.0	20	20	19.0	17.4	92	84	50-149	9	30
Ethylbenzene	ug/L	<1.0	20	20	16.0	16.6	76	79	63-135	4	30
Naphthalene	ug/L	<2.0	20	20	13.5	15.0	68	75	30-157	11	30
Toluene	ug/L	36.9	20	20	53.8	53.7	84	84	59-139	0	30
Xylene (Total)	ug/L	3.5	60	60	54.0	52.9	84	82	63-135	2	30
1,2-Dichloroethane-d4 (S)	%						112	114	70-130		
4-Bromofluorobenzene (S)	%						99	104	70-130		
Dibromofluoromethane (S)	%						102	97	70-130		
Toluene-d8 (S)	%						102	100	70-130		

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: COA
Pace Project No.: 30464491

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COA
Pace Project No.: 30464491

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30464491001	Trip Blank Wt 1	EPA 8260B	484244		
30464491002	CO59-PZP002	EPA 8260B	484244		
30464491003	CO190-MWS	EPA 8260B	484244		
30464491004	CO30-PZM015	EPA 8260B	484244		
30464491005	CO195-MWS	EPA 8260B	484244		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request

WO#: 30464491



30464491

Section A
 Required Client Information:
 Company: Tradepoint Atlantic
 Address: 1600 Sparrows Point Blvd
 Sparrows Point, MD 21219
 Email To:
 Phone:
 Fax:
 Requested Due Date/TAT: 5 day

Section B
 Required Project Information:
 Report To: Bob Tworowski
 Copy To: Stew Kabis
 PO Number:
 Project Name: COA
 Project Number: 20010210

Section C
 Invoice Information:
 Attention: Bob Tworowski
 Company Name: Tradepoint Atlantic
 Address: 1600 Sparrows Point Blvd, Sparrows Point, MD 21219
 Pace Quote Reference:
 Pace Project Manager:
 Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER _____
 Site Location: MD
 STATE: MD

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER (W) WASTE WATER (WW) WATER PRODUCT (L) SOIL/SOLID (S) OIL (O) WIPE (WIP) AIR (A) OTHER (OT) TISSUE (T)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C-COMP)	COLLECTED		PRESERVATIVES	ANALYSIS TEST	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB				
1		WT				Unpreserved			
2	059-PZP02	WTB				H ₂ SO ₄		001	
3	090-MWS	WTB				HCl		002	
4	030-PZM05	WTB				HNO ₃		003	
5	095-MWS	WTB				NaOH		004	
6						Na ₂ S ₂ O ₅		005	
7						Other		006-03	
8						DI Water		001	
9								002	
10								003	
11								004	
12								005	

ADDITIONAL COMMENTS

Data Package Required? (Y/N): No
 Data Validation Required? (Y/N): No
 If this package is required, attach data package.

RELINQUISHED BY / AFFILIATION | **DATE** | **TIME** | **ACCEPTED BY / AFFILIATION** | **DATE** | **TIME** | **SAMPLE CONDITIONS**

Sharon | 2/10/22 | 1545 | GMMB/PACE | 2/10/22 | 1600

GMMB/PACE | 2/10/22 | 20:35 | RDS SPACE | 2/10/22 | 2045

RDS SPACE | 2/10/22 | 2355 | Monique Wang | 2/10/22 | 2355

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Lisa Perun
 SIGNATURE of SAMPLER: *Lisa Perun*
 DATE SIGNED (MM/DD/YYYY): 2/10/22

Received on _____
 Ice (Y/N) _____
 Custody Sealed (Y/N) _____
 Samples Intact (Y/N) _____

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: TradePoint Atlanta

Project # _____

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: N/A

Label <u>MCC</u>
LIMS Login <u>MCC</u>

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 14 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.4 °C Correction Factor: 0 °C Final Temp: 1.4 °C

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot#	Date and Initials of person examining contents	
				<u>N/A</u>	<u>MCC</u>	<u>2/11/2022</u>
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
-Includes date/time/ID Matrix: <u>WT</u>						
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Rush Turn Around Time Requested:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Hex Cr Aqueous sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
All containers have been checked for preservation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
exceptions: <input checked="" type="checkbox"/> VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix						
All containers meet method preservation requirements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed <u>MCC</u>	Date/time of preservation	
				Lot # of added preservative		
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Trip Blank Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Rad Samples Screened < 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed:	Date:	Survey Meter SN:

WO#: 30464491

PM: MS1 Due Date: 02/18/22 CLIENT: TRADEPOINT

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 06, 2022

Mr. Bob Tworkowski
Tradepoint Atlantic
1600 Sparrow's Point Boulevard
Sparrows Point, MD 21219

RE: Project: COA 20010210
Pace Project No.: 30487004

Dear Mr. Tworkowski:

Enclosed are the analytical results for sample(s) received by the laboratory on May 05, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

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

Sincerely,



Skyler C. Richmond
skyler.richmond@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Kaye Guille, ARM Group Inc.
J.Price, ARM Group Inc.
Stewart Kabis, ARM Group Inc.
Mr. Eric S. Magdar, ARM Group Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: COA 20010210

Pace Project No.: 30487004

Pace Analytical Services Pennsylvania

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

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: COA 20010210

Pace Project No.: 30487004

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30487004001	Trip Blank Wt 1	Water	05/05/22 00:01	05/05/22 22:45
30487004002	GD02-MWI	Water	05/05/22 10:20	05/05/22 22:45
30487004003	C037-PZM038	Water	05/05/22 12:00	05/05/22 22:45
30487004004	C027-PZM012	Water	05/05/22 13:21	05/05/22 22:45
30487004005	C027-PZM046	Water	05/05/22 14:42	05/05/22 22:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: COA 20010210

Pace Project No.: 30487004

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30487004001	Trip Blank Wt 1	EPA 8260B	OGR	9	PASI-PA
30487004002	GD02-MWI	EPA 8260B	OGR	9	PASI-PA
30487004003	C037-PZM038	EPA 8260B	OGR	9	PASI-PA
30487004004	C027-PZM012	EPA 8260B	OGR	9	PASI-PA
30487004005	C027-PZM046	EPA 8260B	OGR	9	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30487004

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: June 06, 2022

General Information:

5 samples were analyzed for EPA 8260B by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the EPA method holding time.

- C027-PZM012 (Lab ID: 30487004004)
- C027-PZM046 (Lab ID: 30487004005)
- C037-PZM038 (Lab ID: 30487004003)
- GD02-MWI (Lab ID: 30487004002)
- Trip Blank Wt 1 (Lab ID: 30487004001)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

An MS and MSD were not analyzed for this batch due to instrumentation issues and insufficient sample volume.

- QC Batch: 507311

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30487004

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: June 06, 2022

Analyte Comments:

QC Batch: 507311

1c: An MS and MSD were not analyzed for this batch due to instrumentation issues and insufficient sample volume.

- BLANK (Lab ID: 2458061)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- C027-PZM012 (Lab ID: 30487004004)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- C027-PZM046 (Lab ID: 30487004005)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- C037-PZM038 (Lab ID: 30487004003)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- GD02-MWI (Lab ID: 30487004002)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30487004

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: June 06, 2022

Analyte Comments:

QC Batch: 507311

1c: An MS and MSD were not analyzed for this batch due to instrumentation issues and insufficient sample volume.

- GD02-MWI (Lab ID: 30487004002)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- LCS (Lab ID: 2458062)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- Trip Blank Wt 1 (Lab ID: 30487004001)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30487004

Sample: Trip Blank Wt 1 Lab ID: 30487004001 Collected: 05/05/22 00:01 Received: 05/05/22 22:45 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		06/03/22 11:53	71-43-2	1c,H1
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		06/03/22 11:53	100-41-4	1c,H1
Naphthalene	4.0 U	ug/L	4.0	2.1	1		06/03/22 11:53	91-20-3	1c,H1
Toluene	1.0 U	ug/L	1.0	0.32	1		06/03/22 11:53	108-88-3	1c,H1
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		06/03/22 11:53	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		06/03/22 11:53	460-00-4	1c
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		06/03/22 11:53	17060-07-0	1c
Toluene-d8 (S)	99	%	70-130		1		06/03/22 11:53	2037-26-5	1c
Dibromofluoromethane (S)	105	%	70-130		1		06/03/22 11:53	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30487004

Sample: GD02-MWI **Lab ID: 30487004002** Collected: 05/05/22 10:20 Received: 05/05/22 22:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	226000	ug/L	1000	338	1000		06/03/22 20:45	71-43-2	1c,H1
Ethylbenzene	412	ug/L	10.0	4.0	10		06/03/22 19:57	100-41-4	1c,H1
Naphthalene	1210	ug/L	40.0	21.3	10		06/03/22 19:57	91-20-3	1c,H1
Toluene	62.4	ug/L	10.0	3.2	10		06/03/22 19:57	108-88-3	1c,H1
Xylene (Total)	239	ug/L	30.0	13.5	10		06/03/22 19:57	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		10		06/03/22 19:57	460-00-4	1c
1,2-Dichloroethane-d4 (S)	103	%	70-130		10		06/03/22 19:57	17060-07-0	1c
Toluene-d8 (S)	101	%	70-130		10		06/03/22 19:57	2037-26-5	1c
Dibromofluoromethane (S)	94	%	70-130		10		06/03/22 19:57	1868-53-7	1c

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30487004

Sample: C037-PZM038 **Lab ID: 30487004003** Collected: 05/05/22 12:00 Received: 05/05/22 22:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	107000	ug/L	500	169	500		06/03/22 23:58	71-43-2	1c,H1
Ethylbenzene	248	ug/L	10.0	4.0	10		06/03/22 23:34	100-41-4	1c,H1
Naphthalene	1660	ug/L	40.0	21.3	10		06/03/22 23:34	91-20-3	1c,H1
Toluene	54200	ug/L	500	158	500		06/03/22 23:58	108-88-3	1c,H1
Xylene (Total)	1980	ug/L	30.0	13.5	10		06/03/22 23:34	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		10		06/03/22 23:34	460-00-4	1c
1,2-Dichloroethane-d4 (S)	99	%	70-130		10		06/03/22 23:34	17060-07-0	1c
Toluene-d8 (S)	100	%	70-130		10		06/03/22 23:34	2037-26-5	1c
Dibromofluoromethane (S)	99	%	70-130		10		06/03/22 23:34	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30487004

Sample: C027-PZM012 **Lab ID: 30487004004** Collected: 05/05/22 13:21 Received: 05/05/22 22:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	79100	ug/L	500	169	500		06/04/22 00:46	71-43-2	1c,H1
Ethylbenzene	141	ug/L	10.0	4.0	10		06/04/22 00:22	100-41-4	1c,H1
Naphthalene	1060	ug/L	40.0	21.3	10		06/04/22 00:22	91-20-3	1c,H1
Toluene	28100	ug/L	500	158	500		06/04/22 00:46	108-88-3	1c,H1
Xylene (Total)	1190	ug/L	30.0	13.5	10		06/04/22 00:22	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		10		06/04/22 00:22	460-00-4	1c
1,2-Dichloroethane-d4 (S)	97	%	70-130		10		06/04/22 00:22	17060-07-0	1c
Toluene-d8 (S)	99	%	70-130		10		06/04/22 00:22	2037-26-5	1c
Dibromofluoromethane (S)	101	%	70-130		10		06/04/22 00:22	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30487004

Sample: C027-PZM046 **Lab ID: 30487004005** Collected: 05/05/22 14:42 Received: 05/05/22 22:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	44700	ug/L	500	169	500		06/04/22 01:58	71-43-2	1c,H1
Ethylbenzene	198	ug/L	5.0	2.0	5		06/04/22 01:10	100-41-4	1c,H1
Naphthalene	1240	ug/L	20.0	10.6	5		06/04/22 01:10	91-20-3	1c,H1
Toluene	21000	ug/L	100	31.7	100		06/04/22 01:34	108-88-3	1c,H1
Xylene (Total)	1720	ug/L	15.0	6.8	5		06/04/22 01:10	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		5		06/04/22 01:10	460-00-4	1c
1,2-Dichloroethane-d4 (S)	98	%	70-130		5		06/04/22 01:10	17060-07-0	1c
Toluene-d8 (S)	101	%	70-130		5		06/04/22 01:10	2037-26-5	1c
Dibromofluoromethane (S)	100	%	70-130		5		06/04/22 01:10	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: COA 20010210
Pace Project No.: 30487004

QC Batch: 507311 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30487004001, 30487004002, 30487004003, 30487004004, 30487004005

METHOD BLANK: 2458061 Matrix: Water
Associated Lab Samples: 30487004001, 30487004002, 30487004003, 30487004004, 30487004005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	1.0 U	1.0	0.34	06/03/22 11:04	1c
Ethylbenzene	ug/L	1.0 U	1.0	0.40	06/03/22 11:04	1c
Naphthalene	ug/L	4.0 U	4.0	2.1	06/03/22 11:04	1c
Toluene	ug/L	1.0 U	1.0	0.32	06/03/22 11:04	1c
Xylene (Total)	ug/L	3.0 U	3.0	1.4	06/03/22 11:04	1c
1,2-Dichloroethane-d4 (S)	%	102	70-130		06/03/22 11:04	1c
4-Bromofluorobenzene (S)	%	101	70-130		06/03/22 11:04	1c
Dibromofluoromethane (S)	%	103	70-130		06/03/22 11:04	1c
Toluene-d8 (S)	%	101	70-130		06/03/22 11:04	1c

LABORATORY CONTROL SAMPLE: 2458062

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.6	93	70-130	1c
Ethylbenzene	ug/L	20	19.0	95	70-130	1c
Naphthalene	ug/L	20	18.7	94	55-160	1c
Toluene	ug/L	20	19.2	96	70-130	1c
Xylene (Total)	ug/L	60	56.5	94	70-130	1c
1,2-Dichloroethane-d4 (S)	%			101	70-130	1c
4-Bromofluorobenzene (S)	%			99	70-130	1c
Dibromofluoromethane (S)	%			101	70-130	1c
Toluene-d8 (S)	%			103	70-130	1c

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: COA 20010210

Pace Project No.: 30487004

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 507311

[1] An MS and MSD were not analyzed for this batch due to instrumentation issues and insufficient sample volume.

ANALYTE QUALIFIERS

1c An MS and MSD were not analyzed for this batch due to instrumentation issues and insufficient sample volume.

H1 Analysis conducted outside the EPA method holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COA 20010210

Pace Project No.: 30487004

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30487004001	Trip Blank Wt 1	EPA 8260B	507311		
30487004002	GD02-MWI	EPA 8260B	507311		
30487004003	C037-PZM038	EPA 8260B	507311		
30487004004	C027-PZM012	EPA 8260B	507311		
30487004005	C027-PZM046	EPA 8260B	507311		

REPORT OF LABORATORY ANALYSIS

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WO#: 30487004



30487004



document
ed accurately.

Page: 1 of 1

Section A
Required Client Information:
 Company: Tradepoint Atlantic
 Address: 1600 Sparrows Point Blvd
 Sparrows Point, MD 21219
 Email To:
 Phone:
 Fax:

Section B
Invoice Information:
 Report To: Bob Tworkowski
 Copy To: Stew Kabis
 PO Number:
 Project Name: COA
 Project Number: 20010210
 Requested Due Date(TAT): 5 day

Company Name: Tradepoint Atlantic
Address: 1600 Sparrows Point Blvd, Sparrows Point, MD 21219
Site Location: MD
STATE:
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER WASTE WATER PRODUCT SOL/SOLID OIL WIPE AIR OTHER TISSUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G-GRAB C-COMP)	COLLECTED		# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ NaOH Na ₂ S ₂ O ₃ Other DI Water	Analysis Test ↑ BTEX and naphthalene via 8260 x x x x x x	Requested/Analyte Filtered (Y/N)	Pace Project No./ Lab I.D.
				COMPOSITE START DATE TIME	COMPOSITE END/GRAB DATE TIME					
1		WT			2					
2	G002 - MWI Trip Blank Wt 1	WT		5/5/12 1026	3					
3	C037 - PM038	WT		5/5/12 1200	3					
4	C027 - PM012	WT		5/5/12 1321	3					
5	C027 - PM016	WT		5/5/12 1442	3					
6										
7										
8										
9										
10										
11										
12										

ADDITIONAL COMMENTS
 Data Package Required? (Y/N): No
 Data Validation Required? (Y/N): No
 (If data package is required, attach data package.)

ACCEPTED BY APPLICATOR
 DATE TIME: 05/15/12 16:05
 DATE TIME: 5-5-2012 18:46
 DATE TIME: 5-5-2012 21:45

SAMPLE NAME AND SIGNATURE
 PRINT Name of SAMPLER: TOM PALANK
 SIGNATURE OF SAMPLER: *[Signature]*

RECEIVED ON (Y/N)
CUSTODY SEALED (Y/N)
SAMPLES INTACT (Y/N)

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Tradeport

Project # 30487004

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Label	<u>MJS</u>
LIMS Login	<u>MJS</u>

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 17 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.9 °C Correction Factor: 10.0 °C Final Temp: 1.9 °C MJS 5-6-22

Temp should be above freezing to 6°C

Comments:	pH paper Lot#			Date and Initials of person examining contents: <u>MJS 5-6-22</u>
	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. <u>N/A</u>
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
-Includes date/time/ID Matrix: <u>wt</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
exceptions: <u>VOA</u> coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix				
All containers meet method preservation requirements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed <u>MJS</u> Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17.
Trip Blank Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rad Samples Screened < 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: Date: Survey Meter SN:

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

May 24, 2022

Mr. Bob Tworkowski
Tradepoint Atlantic
1600 Sparrow's Point Boulevard
Sparrows Point, MD 21219

RE: Project: COA 20010210
Pace Project No.: 30487674

Dear Mr. Tworkowski:

Enclosed are the analytical results for sample(s) received by the laboratory on May 09, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

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

Sincerely,



Skyler C. Richmond
skyler.richmond@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Kaye Guille, ARM Group Inc.
J.Price, ARM Group Inc.
Stewart Kabis, ARM Group Inc.
Mr. Eric S. Magdar, ARM Group Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: COA 20010210

Pace Project No.: 30487674

Pace Analytical Services Pennsylvania

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

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: COA 20010210

Pace Project No.: 30487674

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30487674001	Trip Blank Wt1	Water	05/09/22 00:01	05/09/22 22:00
30487674002	CO39-PZM007	Water	05/09/22 11:15	05/09/22 22:00
30487674003	CO39-PZM042	Water	05/09/22 12:05	05/09/22 22:00
30487674004	CO38-PZM006	Water	05/09/22 13:50	05/09/22 22:00
30487674005	CO38-PZM043	Water	05/09/22 14:35	05/09/22 22:00
30487674006	CO36-PZM008	Water	05/09/22 15:40	05/09/22 22:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: COA 20010210

Pace Project No.: 30487674

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30487674001	Trip Blank Wt1	EPA 8260B	AJC	9	PASI-PA
30487674002	CO39-PZM007	EPA 8260B	AJC	9	PASI-PA
30487674003	CO39-PZM042	EPA 8260B	AJC	9	PASI-PA
30487674004	CO38-PZM006	EPA 8260B	AJC	9	PASI-PA
30487674005	CO38-PZM043	EPA 8260B	AJC	9	PASI-PA
30487674006	CO36-PZM008	EPA 8260B	AJC	9	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30487674

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: May 24, 2022

General Information:

6 samples were analyzed for EPA 8260B by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

No MS/MSD was completed due to instrument error.

- QC Batch: 505974

Analyte Comments:

QC Batch: 505974

1c: No MS/MSD was completed due to instrument error.

- BLANK (Lab ID: 2451185)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30487674

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: May 24, 2022

Analyte Comments:

QC Batch: 505974

1c: No MS/MSD was completed due to instrument error.

- BLANK (Lab ID: 2451185)
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- CO36-PZM008 (Lab ID: 30487674006)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- CO38-PZM006 (Lab ID: 30487674004)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- CO38-PZM043 (Lab ID: 30487674005)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- CO39-PZM007 (Lab ID: 30487674002)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30487674

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: May 24, 2022

Analyte Comments:

QC Batch: 505974

1c: No MS/MSD was completed due to instrument error.

- CO39-PZM007 (Lab ID: 30487674002)
 - Toluene
 - Xylene (Total)
- CO39-PZM042 (Lab ID: 30487674003)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- LCS (Lab ID: 2451186)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- Trip Blank Wt1 (Lab ID: 30487674001)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30487674

Sample: Trip Blank Wt1 **Lab ID: 30487674001** Collected: 05/09/22 00:01 Received: 05/09/22 22:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		05/23/22 14:50	71-43-2	1c
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		05/23/22 14:50	100-41-4	1c
Naphthalene	4.0 U	ug/L	4.0	2.1	1		05/23/22 14:50	91-20-3	1c
Toluene	1.0 U	ug/L	1.0	0.32	1		05/23/22 14:50	108-88-3	1c
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		05/23/22 14:50	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		1		05/23/22 14:50	460-00-4	1c
1,2-Dichloroethane-d4 (S)	111	%	70-130		1		05/23/22 14:50	17060-07-0	1c
Toluene-d8 (S)	95	%	70-130		1		05/23/22 14:50	2037-26-5	1c
Dibromofluoromethane (S)	110	%	70-130		1		05/23/22 14:50	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30487674

Sample: CO39-PZM007 **Lab ID: 30487674002** Collected: 05/09/22 11:15 Received: 05/09/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	486	ug/L	5.0	1.7	5		05/23/22 16:05	71-43-2	1c
Ethylbenzene	5.0 U	ug/L	5.0	2.0	5		05/23/22 16:05	100-41-4	1c
Naphthalene	125	ug/L	20.0	10.6	5		05/23/22 16:05	91-20-3	1c
Toluene	36.8	ug/L	5.0	1.6	5		05/23/22 16:05	108-88-3	1c
Xylene (Total)	8.7J	ug/L	15.0	6.8	5		05/23/22 16:05	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		5		05/23/22 16:05	460-00-4	1c
1,2-Dichloroethane-d4 (S)	106	%	70-130		5		05/23/22 16:05	17060-07-0	1c
Toluene-d8 (S)	96	%	70-130		5		05/23/22 16:05	2037-26-5	1c
Dibromofluoromethane (S)	109	%	70-130		5		05/23/22 16:05	1868-53-7	1c

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30487674

Sample: CO39-PZM042 **Lab ID: 30487674003** Collected: 05/09/22 12:05 Received: 05/09/22 22:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	6810	ug/L	50.0	16.9	50		05/23/22 16:54	71-43-2	1c
Ethylbenzene	21.3	ug/L	5.0	2.0	5		05/23/22 16:30	100-41-4	1c
Naphthalene	1870	ug/L	20.0	10.6	5		05/23/22 16:30	91-20-3	1c
Toluene	846	ug/L	5.0	1.6	5		05/23/22 16:30	108-88-3	1c
Xylene (Total)	196	ug/L	15.0	6.8	5		05/23/22 16:30	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		5		05/23/22 16:30	460-00-4	1c
1,2-Dichloroethane-d4 (S)	109	%	70-130		5		05/23/22 16:30	17060-07-0	1c
Toluene-d8 (S)	94	%	70-130		5		05/23/22 16:30	2037-26-5	1c
Dibromofluoromethane (S)	102	%	70-130		5		05/23/22 16:30	1868-53-7	1c

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30487674

Sample: CO38-PZM006 **Lab ID: 30487674004** Collected: 05/09/22 13:50 Received: 05/09/22 22:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	9100	ug/L	50.0	16.9	50		05/23/22 17:43	71-43-2	1c
Ethylbenzene	52.4	ug/L	5.0	2.0	5		05/23/22 17:19	100-41-4	1c
Naphthalene	1570	ug/L	20.0	10.6	5		05/23/22 17:19	91-20-3	1c
Toluene	936	ug/L	5.0	1.6	5		05/23/22 17:19	108-88-3	1c
Xylene (Total)	409	ug/L	15.0	6.8	5		05/23/22 17:19	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		5		05/23/22 17:19	460-00-4	1c
1,2-Dichloroethane-d4 (S)	106	%	70-130		5		05/23/22 17:19	17060-07-0	1c
Toluene-d8 (S)	98	%	70-130		5		05/23/22 17:19	2037-26-5	1c
Dibromofluoromethane (S)	104	%	70-130		5		05/23/22 17:19	1868-53-7	1c

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30487674

Sample: CO38-PZM043 **Lab ID: 30487674005** Collected: 05/09/22 14:35 Received: 05/09/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0	ug/L	1.0	0.34	1		05/23/22 15:40	71-43-2	1c
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		05/23/22 15:40	100-41-4	1c
Naphthalene	4.0 U	ug/L	4.0	2.1	1		05/23/22 15:40	91-20-3	1c
Toluene	1.0 U	ug/L	1.0	0.32	1		05/23/22 15:40	108-88-3	1c
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		05/23/22 15:40	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		05/23/22 15:40	460-00-4	1c
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		05/23/22 15:40	17060-07-0	1c
Toluene-d8 (S)	96	%	70-130		1		05/23/22 15:40	2037-26-5	1c
Dibromofluoromethane (S)	116	%	70-130		1		05/23/22 15:40	1868-53-7	1c

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30487674

Sample: CO36-PZM008 **Lab ID: 30487674006** Collected: 05/09/22 15:40 Received: 05/09/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	5360	ug/L	200	67.6	200		05/23/22 18:32	71-43-2	1c
Ethylbenzene	17.9	ug/L	5.0	2.0	5		05/23/22 18:08	100-41-4	1c
Naphthalene	226	ug/L	20.0	10.6	5		05/23/22 18:08	91-20-3	1c
Toluene	1350	ug/L	5.0	1.6	5		05/23/22 18:08	108-88-3	1c
Xylene (Total)	398	ug/L	15.0	6.8	5		05/23/22 18:08	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		5		05/23/22 18:08	460-00-4	1c
1,2-Dichloroethane-d4 (S)	106	%	70-130		5		05/23/22 18:08	17060-07-0	1c
Toluene-d8 (S)	97	%	70-130		5		05/23/22 18:08	2037-26-5	1c
Dibromofluoromethane (S)	103	%	70-130		5		05/23/22 18:08	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: COA 20010210

Pace Project No.: 30487674

QC Batch:	505974	Analysis Method:	EPA 8260B
QC Batch Method:	EPA 8260B	Analysis Description:	8260B MSV
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 30487674001, 30487674002, 30487674003, 30487674004, 30487674005, 30487674006

METHOD BLANK: 2451185 Matrix: Water

Associated Lab Samples: 30487674001, 30487674002, 30487674003, 30487674004, 30487674005, 30487674006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	0.62J	1.0	0.34	05/24/22 00:12	1c
Ethylbenzene	ug/L	1.0 U	1.0	0.40	05/24/22 00:12	1c
Naphthalene	ug/L	4.0 U	4.0	2.1	05/24/22 00:12	1c
Toluene	ug/L	0.36J	1.0	0.32	05/24/22 00:12	1c
Xylene (Total)	ug/L	3.0 U	3.0	1.4	05/24/22 00:12	1c
1,2-Dichloroethane-d4 (S)	%	115	70-130		05/24/22 00:12	1c
4-Bromofluorobenzene (S)	%	97	70-130		05/24/22 00:12	1c
Dibromofluoromethane (S)	%	112	70-130		05/24/22 00:12	1c
Toluene-d8 (S)	%	96	70-130		05/24/22 00:12	1c

LABORATORY CONTROL SAMPLE: 2451186

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.5	102	70-130	1c
Ethylbenzene	ug/L	20	20.8	104	70-130	1c
Naphthalene	ug/L	20	18.2	91	55-160	1c
Toluene	ug/L	20	20.5	103	70-130	1c
Xylene (Total)	ug/L	60	59.9	100	70-130	1c
1,2-Dichloroethane-d4 (S)	%			108	70-130	1c
4-Bromofluorobenzene (S)	%			101	70-130	1c
Dibromofluoromethane (S)	%			108	70-130	1c
Toluene-d8 (S)	%			99	70-130	1c

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: COA 20010210

Pace Project No.: 30487674

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 505974

[1] No MS/MSD was completed due to instrument error.

ANALYTE QUALIFIERS

1c No MS/MSD was completed due to instrument error.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COA 20010210
Pace Project No.: 30487674

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30487674001	Trip Blank Wt1	EPA 8260B	505974		
30487674002	CO39-PZM007	EPA 8260B	505974		
30487674003	CO39-PZM042	EPA 8260B	505974		
30487674004	CO38-PZM006	EPA 8260B	505974		
30487674005	CO38-PZM043	EPA 8260B	505974		
30487674006	CO36-PZM008	EPA 8260B	505974		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

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

WO#: 30487674



30487674

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: TradePoint Atlantic	Report To: Bob Tworkowski	Report To: Bob Tworkowski	Attention: Bob Tworkowski	Company Name: TradePoint Atlantic	Invoice Number: 30487674
Address: 1600 Sparrows Point Blvd	Copy To: Stew Kabis	Address: 1600 Sparrows Point Blvd, Sparrows Point, MD 21219	Company Name: TradePoint Atlantic	Address: 1600 Sparrows Point Blvd, Sparrows Point, MD 21219	Project Number: 20010210
Email To: Sparrows Point, MD 21219	PO Number:	Project Name: COA	Project Number: 20010210	Requested Due Date/TAT: 5 day	Requested Analysis Filtered (Y/N)
Phone: 443 905 5128 Fax:	Project Name: COA	Project Number: 20010210	Requested Due Date/TAT: 5 day	Requested Analysis Filtered (Y/N)	Requested Analysis Filtered (Y/N)

ITEM #	Valid Matrix Codes MATRIX CODE	COLLECTED		DATE	TIME	DATE	TIME	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Sample Conditions
		COMPOSITE START	COMPOSITE END/GRAB											
1	WT			5/9/02										
2	WT			5/9/02	1115									
3	WT			5/9/02	1205									
4	WT			5/9/02	1350									
5	WT			5/9/02	1435									
6	WT			5/9/02	1540									
7														
8														
9														
10														
11														
12														
ADDITIONAL COMMENTS Data Package Required? (Y/N): No Data Validation Required? (Y/N): No (If data package is required, attach data package)														

Section D Required Client Information		Section E Required Project Information		Section F Invoice Information	
Company: TradePoint Atlantic	Report To: Bob Tworkowski	Report To: Bob Tworkowski	Attention: Bob Tworkowski	Company Name: TradePoint Atlantic	Invoice Number: 30487674
Address: 1600 Sparrows Point Blvd	Copy To: Stew Kabis	Address: 1600 Sparrows Point Blvd, Sparrows Point, MD 21219	Company Name: TradePoint Atlantic	Address: 1600 Sparrows Point Blvd, Sparrows Point, MD 21219	Project Number: 20010210
Email To: Sparrows Point, MD 21219	PO Number:	Project Name: COA	Project Number: 20010210	Requested Due Date/TAT: 5 day	Requested Analysis Filtered (Y/N)
Phone: 443 905 5128 Fax:	Project Name: COA	Project Number: 20010210	Requested Due Date/TAT: 5 day	Requested Analysis Filtered (Y/N)	Requested Analysis Filtered (Y/N)

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER _____

Site Location _____ **STATE:** MD

Requested Analysis Filtered (Y/N)

Analysis Test
 BTX and naphthalene via 8260
 DI Water
 Other
 NaOH
 HCl
 HNO₃
 H₂SO₄
 Unpreserved

OF CONTAINERS
 2
 3
 3
 3
 3
 3

DATE 5/9/02 5/9/02 5/9/02 5/9/02 5/9/02 5/9/02

TIME 1115 1205 1350 1435 1540

RELINQUISHED BY / AFFILIATION
 JRM / ARM
 JRM / ARM
 JRM / ARM
 JRM / ARM
 JRM / ARM

DATE 5/9/02 5/9/02 5/9/02 5/9/02 5/9/02

TIME 1620 1802 2000

ACCEPTED BY / AFFILIATION
 JRM / ARM
 JRM / ARM
 JRM / ARM
 JRM / ARM
 JRM / ARM

DATE 5/10/02 5/9/02 5/9/02 5/9/02 5/9/02

TIME 1620 1805 2000

Sample Conditions
 Received on Ice (Y/N)
 Custody Sealed (Y/N)
 Samples Intact (Y/N)

Received on Ice (Y/N) _____
 Custody Sealed (Y/N) _____
 Samples Intact (Y/N) _____

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: TOM PALANK
 SIGNATURE OF SAMPLER: [Signature]

DATE SIGNED (MM/DD/YY): 05/09/02

Client Name: TradePoint

Project # _____

Label AK
LIMS Login

Tracking #: _____

Courier: Fed Ex UPS USPS Client Commercial Face Other

Custody Seal on Cooler/Box Present: yes no
Seals Intact: yes no

Thermometer Used 14 Observed Temp 3.7 °C
Type of Ice: Wet Blue None
Correction Factor: 0 °C Final Temp: 3.7 °C

Temp should be above freezing to 6°C

Comments: pH paper Lot# N/A Date and Initials of person examining AK 5-10-22

1.	Chain of Custody Present:	<input checked="" type="checkbox"/>		
2.	Chain of Custody Filled Out:	<input checked="" type="checkbox"/>		
3.	Chain of Custody Relinquished:	<input checked="" type="checkbox"/>		
4.	Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>		
5.	Sample Labels match COC: -Includes date/time/ID Matrix: <u>WT</u>	<input checked="" type="checkbox"/>		

6.	Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>		
7.	Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>		
8.	Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>		
9.	Sufficient Volume:	<input checked="" type="checkbox"/>		
10.	Correct Containers Used:	<input checked="" type="checkbox"/>		
11.	-Face Containers Used:	<input checked="" type="checkbox"/>		
12.	Containers Intact:	<input checked="" type="checkbox"/>		
13.	Orthophosphate field filtered:	<input checked="" type="checkbox"/>		
14.	Hex Cr Aqueous sample field filtered:	<input checked="" type="checkbox"/>		
15.	Organic Samples checked for dechlorination:	<input checked="" type="checkbox"/>		
16.	Filtered volume received for Dissolved tests:	<input checked="" type="checkbox"/>		
17.	All containers have been checked for preservation:	<input checked="" type="checkbox"/>		
18.	exceptions: <u>VOA, coliform, TOC, O&G, Phenolics, Radon,</u> Non-aqueous matrix	<input checked="" type="checkbox"/>		

19.	All containers meet method preservation requirements.	<input checked="" type="checkbox"/>		
20.	Initial when completed Date/time of preservation	<input checked="" type="checkbox"/>		
21.	Lot # of added preservative			

22.	Headspace in VOA Vials (>6mm):	<input checked="" type="checkbox"/>		
23.	Trip Blank Present:	<input checked="" type="checkbox"/>		
24.	Trip Blank Custody Seals Present:	<input checked="" type="checkbox"/>		
25.	Initial when completed Date:	<input checked="" type="checkbox"/>		
26.	Survey Meter SN:			

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in reports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

MO#: 30487674

PM: SCR Due Date: 05/17/22
CLIENT: TRADEPOINT

May 24, 2022

Mr. Bob Tworkowski
Tradepoint Atlantic
1600 Sparrow's Point Boulevard
Sparrows Point, MD 21219

RE: Project: COA 20010210
Pace Project No.: 30488059

Dear Mr. Tworkowski:

Enclosed are the analytical results for sample(s) received by the laboratory on May 10, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

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

Sincerely,



Skyler C. Richmond
skyler.richmond@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Kaye Guille, ARM Group Inc.
J.Price, ARM Group Inc.
Stewart Kabis, ARM Group Inc.
Mr. Eric S. Magdar, ARM Group Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: COA 20010210

Pace Project No.: 30488059

Pace Analytical Services Pennsylvania

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

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: COA 20010210

Pace Project No.: 30488059

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30488059001	Trip Blank	Water	05/10/22 00:01	05/10/22 22:00
30488059002	CO36-PZM043	Water	05/10/22 10:10	05/10/22 22:00
30488059003	CO182-MWI	Water	05/10/22 11:15	05/10/22 22:00
30488059004	CO40-PZM008	Water	05/10/22 13:00	05/10/22 22:00
30488059005	CO41-PZM036	Water	05/10/22 14:15	05/10/22 22:00
30488059006	CO41-PZM001	Water	05/10/22 14:58	05/10/22 22:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: COA 20010210
Pace Project No.: 30488059

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30488059001	Trip Blank	EPA 8260B	AJC	9	PASI-PA
30488059002	CO36-PZM043	EPA 8260B	AJC	9	PASI-PA
30488059003	CO182-MWI	EPA 8260B	AJC	9	PASI-PA
30488059004	CO40-PZM008	EPA 8260B	AJC	9	PASI-PA
30488059005	CO41-PZM036	EPA 8260B	AJC	9	PASI-PA
30488059006	CO41-PZM001	EPA 8260B	AJC	9	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30488059

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: May 24, 2022

General Information:

6 samples were analyzed for EPA 8260B by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

No MS/MSD was completed due to instrument error.

- QC Batch: 505974

Analyte Comments:

QC Batch: 505974

1c: No MS/MSD was completed due to instrument error.

- BLANK (Lab ID: 2451185)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30488059

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: May 24, 2022

Analyte Comments:

QC Batch: 505974

1c: No MS/MSD was completed due to instrument error.

- BLANK (Lab ID: 2451185)
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- CO182-MWI (Lab ID: 30488059003)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- CO36-PZM043 (Lab ID: 30488059002)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- CO40-PZM008 (Lab ID: 30488059004)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- CO41-PZM001 (Lab ID: 30488059006)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30488059

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: May 24, 2022

Analyte Comments:

QC Batch: 505974

1c: No MS/MSD was completed due to instrument error.

- CO41-PZM001 (Lab ID: 30488059006)
 - Toluene
 - Xylene (Total)
- CO41-PZM036 (Lab ID: 30488059005)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- LCS (Lab ID: 2451186)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- Trip Blank (Lab ID: 30488059001)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30488059

Sample: Trip Blank **Lab ID: 30488059001** Collected: 05/10/22 00:01 Received: 05/10/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		05/23/22 15:15	71-43-2	1c
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		05/23/22 15:15	100-41-4	1c
Naphthalene	4.0 U	ug/L	4.0	2.1	1		05/23/22 15:15	91-20-3	1c
Toluene	1.0 U	ug/L	1.0	0.32	1		05/23/22 15:15	108-88-3	1c
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		05/23/22 15:15	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		05/23/22 15:15	460-00-4	1c
1,2-Dichloroethane-d4 (S)	111	%	70-130		1		05/23/22 15:15	17060-07-0	1c
Toluene-d8 (S)	96	%	70-130		1		05/23/22 15:15	2037-26-5	1c
Dibromofluoromethane (S)	106	%	70-130		1		05/23/22 15:15	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30488059

Sample: CO36-PZM043 **Lab ID: 30488059002** Collected: 05/10/22 10:10 Received: 05/10/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	15100	ug/L	500	169	500		05/23/22 19:21	71-43-2	1c
Ethylbenzene	40.7	ug/L	5.0	2.0	5		05/23/22 18:57	100-41-4	1c
Naphthalene	530	ug/L	20.0	10.6	5		05/23/22 18:57	91-20-3	1c
Toluene	2050	ug/L	500	158	500		05/23/22 19:21	108-88-3	1c
Xylene (Total)	612	ug/L	15.0	6.8	5		05/23/22 18:57	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		5		05/23/22 18:57	460-00-4	1c
1,2-Dichloroethane-d4 (S)	111	%	70-130		5		05/23/22 18:57	17060-07-0	1c
Toluene-d8 (S)	96	%	70-130		5		05/23/22 18:57	2037-26-5	1c
Dibromofluoromethane (S)	101	%	70-130		5		05/23/22 18:57	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30488059

Sample: CO182-MWI **Lab ID: 30488059003** Collected: 05/10/22 11:15 Received: 05/10/22 22:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	278000	ug/L	1000	338	1000		05/23/22 20:10	71-43-2	1c
Ethylbenzene	1040	ug/L	5.0	2.0	5		05/23/22 19:46	100-41-4	1c
Naphthalene	222	ug/L	20.0	10.6	5		05/23/22 19:46	91-20-3	1c
Toluene	26100	ug/L	1000	317	1000		05/23/22 20:10	108-88-3	1c
Xylene (Total)	8980	ug/L	3000	1350	1000		05/23/22 20:10	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	89	%	70-130		5		05/23/22 19:46	460-00-4	1c
1,2-Dichloroethane-d4 (S)	110	%	70-130		5		05/23/22 19:46	17060-07-0	1c
Toluene-d8 (S)	98	%	70-130		5		05/23/22 19:46	2037-26-5	1c
Dibromofluoromethane (S)	86	%	70-130		5		05/23/22 19:46	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30488059

Sample: CO40-PZM008 **Lab ID: 30488059004** Collected: 05/10/22 13:00 Received: 05/10/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	3740	ug/L	10.0	3.4	10		05/23/22 20:58	71-43-2	1c
Ethylbenzene	21.3	ug/L	10.0	4.0	10		05/23/22 20:58	100-41-4	1c
Naphthalene	1600	ug/L	40.0	21.3	10		05/23/22 20:58	91-20-3	1c
Toluene	546	ug/L	10.0	3.2	10		05/23/22 20:58	108-88-3	1c
Xylene (Total)	186	ug/L	30.0	13.5	10		05/23/22 20:58	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		10		05/23/22 20:58	460-00-4	1c
1,2-Dichloroethane-d4 (S)	110	%	70-130		10		05/23/22 20:58	17060-07-0	1c
Toluene-d8 (S)	95	%	70-130		10		05/23/22 20:58	2037-26-5	1c
Dibromofluoromethane (S)	101	%	70-130		10		05/23/22 20:58	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30488059

Sample: CO41-PZM036 **Lab ID: 30488059005** Collected: 05/10/22 14:15 Received: 05/10/22 22:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	230000	ug/L	2000	676	2000		05/23/22 21:47	71-43-2	1c
Ethylbenzene	1020	ug/L	5.0	2.0	5		05/23/22 21:23	100-41-4	1c
Naphthalene	336	ug/L	20.0	10.6	5		05/23/22 21:23	91-20-3	1c
Toluene	99600	ug/L	2000	634	2000		05/23/22 21:47	108-88-3	1c
Xylene (Total)	20600	ug/L	6000	2700	2000		05/23/22 21:47	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		5		05/23/22 21:23	460-00-4	1c
1,2-Dichloroethane-d4 (S)	98	%	70-130		5		05/23/22 21:23	17060-07-0	1c
Toluene-d8 (S)	108	%	70-130		5		05/23/22 21:23	2037-26-5	1c
Dibromofluoromethane (S)	82	%	70-130		5		05/23/22 21:23	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30488059

Sample: CO41-PZM001 **Lab ID: 30488059006** Collected: 05/10/22 14:58 Received: 05/10/22 22:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1880	ug/L	10.0	3.4	10		05/23/22 22:36	71-43-2	1c
Ethylbenzene	53.3	ug/L	10.0	4.0	10		05/23/22 22:36	100-41-4	1c
Naphthalene	22.5J	ug/L	40.0	21.3	10		05/23/22 22:36	91-20-3	1c
Toluene	1110	ug/L	10.0	3.2	10		05/23/22 22:36	108-88-3	1c
Xylene (Total)	421	ug/L	30.0	13.5	10		05/23/22 22:36	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		10		05/23/22 22:36	460-00-4	1c
1,2-Dichloroethane-d4 (S)	103	%	70-130		10		05/23/22 22:36	17060-07-0	1c
Toluene-d8 (S)	98	%	70-130		10		05/23/22 22:36	2037-26-5	1c
Dibromofluoromethane (S)	106	%	70-130		10		05/23/22 22:36	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: COA 20010210
Pace Project No.: 30488059

QC Batch: 505974 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30488059001, 30488059002, 30488059003, 30488059004, 30488059005, 30488059006

METHOD BLANK: 2451185 Matrix: Water
Associated Lab Samples: 30488059001, 30488059002, 30488059003, 30488059004, 30488059005, 30488059006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	0.62J	1.0	0.34	05/24/22 00:12	1c
Ethylbenzene	ug/L	1.0 U	1.0	0.40	05/24/22 00:12	1c
Naphthalene	ug/L	4.0 U	4.0	2.1	05/24/22 00:12	1c
Toluene	ug/L	0.36J	1.0	0.32	05/24/22 00:12	1c
Xylene (Total)	ug/L	3.0 U	3.0	1.4	05/24/22 00:12	1c
1,2-Dichloroethane-d4 (S)	%	115	70-130		05/24/22 00:12	1c
4-Bromofluorobenzene (S)	%	97	70-130		05/24/22 00:12	1c
Dibromofluoromethane (S)	%	112	70-130		05/24/22 00:12	1c
Toluene-d8 (S)	%	96	70-130		05/24/22 00:12	1c

LABORATORY CONTROL SAMPLE: 2451186

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.5	102	70-130	1c
Ethylbenzene	ug/L	20	20.8	104	70-130	1c
Naphthalene	ug/L	20	18.2	91	55-160	1c
Toluene	ug/L	20	20.5	103	70-130	1c
Xylene (Total)	ug/L	60	59.9	100	70-130	1c
1,2-Dichloroethane-d4 (S)	%			108	70-130	1c
4-Bromofluorobenzene (S)	%			101	70-130	1c
Dibromofluoromethane (S)	%			108	70-130	1c
Toluene-d8 (S)	%			99	70-130	1c

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: COA 20010210

Pace Project No.: 30488059

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 505974

[1] No MS/MSD was completed due to instrument error.

ANALYTE QUALIFIERS

1c No MS/MSD was completed due to instrument error.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COA 20010210

Pace Project No.: 30488059

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30488059001	Trip Blank	EPA 8260B	505974		
30488059002	CO36-PZM043	EPA 8260B	505974		
30488059003	CO182-MWI	EPA 8260B	505974		
30488059004	CO40-PZM008	EPA 8260B	505974		
30488059005	CO41-PZM036	EPA 8260B	505974		
30488059006	CO41-PZM001	EPA 8260B	505974		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

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

WO#: 30488059



30488059

Section A Required Client Information:

Company: Tradepoint Atlantic
 Address: 1600 Sparrows Point Blvd
 Sparrows Point, MD 21219
 Email To:
 Phone:
 Fax:
 Requested Due Date/TAT: 5 day

Section B Required Project Information:

Report To: Bob Tworkowski
 Copy To: Stew Kabis
 PO Number:
 Project Name: COA
 Project Number: 20010210

Section C Invoice Information:

Attention: Bob Tworkowski
 Company Name: Tradepoint Atlantic
 Address: 1600 Sparrows Point Blvd., Sparrows Point, MD 21219
 Pace Quote Reference:
 Pace Project Manager:
 Pace Profile #:

Site Location STATE: MD

ITEM #	Section D Required Client Information	Valid Matrix Codes	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Received on Ice (Y/N)	Custody Sealed (Y/N)	Samples Intact (Y/N)
					COMPOSITE START	COMPOSITE END/GRAB								
1		DRINKING WATER	WT											
2		WASTE WATER	WT											
3		PRODUCT	WT											
4		SOIL/SOLID	WT											
5		WASTE WATER	WT											
6		WASTE WATER	WT											
7		WASTE WATER	WT											
8		WASTE WATER	WT											
9		WASTE WATER	WT											
10		WASTE WATER	WT											
11		WASTE WATER	WT											
12		WASTE WATER	WT											
<p>ADDITIONAL COMMENTS</p> <p>Data Package Required? (Y/N): No</p> <p>Data Validation Required? (Y/N): No</p> <p>If data package is required, attach data package.</p>														
<p>RELINQUISHED BY / AFFILIATION</p> <p>ARM / ARM</p>														
<p>ACCEPTED BY / AFFILIATION</p> <p>ARM / ARM</p>														
<p>DATE</p> <p>5/10/22</p>														
<p>TIME</p> <p>1610</p>														
<p>DATE</p> <p>5/10/22</p>														
<p>TIME</p> <p>1811</p>														
<p>DATE</p> <p>5/10/22</p>														
<p>TIME</p> <p>2200</p>														
<p>RECEIVED ON ICE (Y/N)</p> <p>Y</p>														
<p>CUSTODY SEALED (Y/N)</p> <p>Y</p>														
<p>SAMPLE NAME AND SIGNATURE</p> <p>PRINT Name of SAMPLER: TOM PALANK</p> <p>SIGNATURE of SAMPLER: [Signature]</p>														
<p>DATE SIGNED (MM/DD/YY)</p> <p>05/10/22</p>														

Face Analytical

Client Name: TradePoint

Project # _____

Courier: Fed Ex UPS USPS Client Commercial Face Other

Label [Signature]
LIMS Login

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no
Seals intact: yes no

Thermometer Used: 16
Type of Ice: Wet Blue None
Cooler Temperature: _____
Observed Temp: 2.4 °C
Correction Factor: 0 °C
Final Temp: 2.4 °C
Temp should be above freezing to 6°C

Comments: _____
pH paper Lot# N/A
Date and initials of person examining contents: [Signature]

Chain of Custody Present:	<input checked="" type="checkbox"/>
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>
Sample Labels match COC:	<input checked="" type="checkbox"/>
-Includes date/time/ID Matrix:	<input checked="" type="checkbox"/>
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>
Short Hold Time Analysis (<72hr remaining):	<input checked="" type="checkbox"/>
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>
Sufficient Volume:	<input checked="" type="checkbox"/>
Correct Containers Used:	<input checked="" type="checkbox"/>
-Pace Containers Used:	<input checked="" type="checkbox"/>
Containers Intact:	<input checked="" type="checkbox"/>
Orthophosphate field filtered:	<input checked="" type="checkbox"/>
Hex Cr Aqueous sample field filtered:	<input checked="" type="checkbox"/>
Organic Samples checked for dechlorination:	<input checked="" type="checkbox"/>
Filtered volume received for Dissolved tests:	<input checked="" type="checkbox"/>
All containers have been checked for preservation:	<input checked="" type="checkbox"/>
exceptions: <u>NOA</u> , coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	
All containers meet method preservation requirements.	<input checked="" type="checkbox"/>
Initial when completed:	<input checked="" type="checkbox"/>
Lot # of added preservative	
Date/time of preservation	

Rad Samples Screened < 0.5 mrem/hr	<input checked="" type="checkbox"/>
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>
Trip Blank Present:	<input checked="" type="checkbox"/>
Headspace in VOA Vials (>6mm):	<input checked="" type="checkbox"/>
18.	<input checked="" type="checkbox"/>
17.	<input checked="" type="checkbox"/>
Initial when completed:	<input checked="" type="checkbox"/>
Date:	
SN: Survey Meter	

Client Notification/ Resolution: _____

Person Contacted: _____

Date/Time: _____

Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

WO#: 30488059
PM: SCR
Due Date: 05/18/22
CLIENT: TRADEPOINT

June 06, 2022

Mr. Bob Tworkowski
Tradepoint Atlantic
1600 Sparrow's Point Boulevard
Sparrows Point, MD 21219

RE: Project: COA 20010210
Pace Project No.: 30488875

Dear Mr. Tworkowski:

Enclosed are the analytical results for sample(s) received by the laboratory on May 12, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

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

Sincerely,



Skyler C. Richmond
skyler.richmond@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Kaye Guille, ARM Group Inc.
J.Price, ARM Group Inc.
Stewart Kabis, ARM Group Inc.
Mr. Eric S. Magdar, ARM Group Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: COA 20010210

Pace Project No.: 30488875

Pace Analytical Services Pennsylvania

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

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: COA 20010210

Pace Project No.: 30488875

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30488875001	Trip Blank Wt 1	Water	05/12/22 00:01	05/12/22 22:35
30488875002	CO194-MWS	Water	05/12/22 10:40	05/12/22 22:35
30488875003	CO195-MWS	Water	05/12/22 11:50	05/12/22 22:35
30488875004	CO196-MWS	Water	05/12/22 14:15	05/12/22 22:35
30488875005	CO60-PZP001	Water	05/12/22 15:10	05/12/22 22:35
30488875006	CO58-PZM001	Water	05/12/22 15:55	05/12/22 22:35

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: COA 20010210
Pace Project No.: 30488875

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30488875001	Trip Blank Wt 1	EPA 8260B	OGR	9	PASI-PA
30488875002	CO194-MWS	EPA 8260B	OGR	9	PASI-PA
30488875003	CO195-MWS	EPA 8260B	OGR	9	PASI-PA
30488875004	CO196-MWS	EPA 8260B	OGR	9	PASI-PA
30488875005	CO60-PZP001	EPA 8260B	OGR	9	PASI-PA
30488875006	CO58-PZM001	EPA 8260B	OGR	9	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30488875

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: June 06, 2022

General Information:

6 samples were analyzed for EPA 8260B by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the EPA method holding time.

- CO194-MWS (Lab ID: 30488875002)
- CO195-MWS (Lab ID: 30488875003)
- CO196-MWS (Lab ID: 30488875004)
- CO58-PZM001 (Lab ID: 30488875006)
- CO60-PZP001 (Lab ID: 30488875005)
- Trip Blank Wt 1 (Lab ID: 30488875001)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Batch Comments:

An MS and MSD were not analyzed for this batch due to instrumentation issues and insufficient sample volume.

- QC Batch: 507311

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30488875

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: June 06, 2022

Analyte Comments:

QC Batch: 507311

1c: An MS and MSD were not analyzed for this batch due to instrumentation issues and insufficient sample volume.

- BLANK (Lab ID: 2458061)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- CO194-MWS (Lab ID: 30488875002)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- CO195-MWS (Lab ID: 30488875003)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- CO196-MWS (Lab ID: 30488875004)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- CO58-PZM001 (Lab ID: 30488875006)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30488875

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: June 06, 2022

Analyte Comments:

QC Batch: 507311

1c: An MS and MSD were not analyzed for this batch due to instrumentation issues and insufficient sample volume.

- CO58-PZM001 (Lab ID: 30488875006)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- CO60-PZP001 (Lab ID: 30488875005)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- LCS (Lab ID: 2458062)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)
- Trip Blank Wt 1 (Lab ID: 30488875001)
 - 1,2-Dichloroethane-d4 (S)
 - 4-Bromofluorobenzene (S)
 - Benzene
 - Dibromofluoromethane (S)
 - Ethylbenzene
 - Naphthalene
 - Toluene-d8 (S)
 - Toluene
 - Xylene (Total)

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30488875

Sample: Trip Blank Wt 1 **Lab ID: 30488875001** Collected: 05/12/22 00:01 Received: 05/12/22 22:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		06/03/22 12:17	71-43-2	1c,H1
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		06/03/22 12:17	100-41-4	1c,H1
Naphthalene	4.0 U	ug/L	4.0	2.1	1		06/03/22 12:17	91-20-3	1c,H1
Toluene	1.0 U	ug/L	1.0	0.32	1		06/03/22 12:17	108-88-3	1c,H1
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		06/03/22 12:17	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		06/03/22 12:17	460-00-4	1c
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		06/03/22 12:17	17060-07-0	1c
Toluene-d8 (S)	102	%	70-130		1		06/03/22 12:17	2037-26-5	1c
Dibromofluoromethane (S)	104	%	70-130		1		06/03/22 12:17	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30488875

Sample: CO194-MWS **Lab ID: 30488875002** Collected: 05/12/22 10:40 Received: 05/12/22 22:35 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	617	ug/L	10.0	3.4	10		06/03/22 17:32	71-43-2	1c,H1
Ethylbenzene	4.1J	ug/L	10.0	4.0	10		06/03/22 17:32	100-41-4	1c,H1
Naphthalene	2960	ug/L	40.0	21.3	10		06/03/22 17:32	91-20-3	1c,H1
Toluene	105	ug/L	10.0	3.2	10		06/03/22 17:32	108-88-3	1c,H1
Xylene (Total)	57.6	ug/L	30.0	13.5	10		06/03/22 17:32	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		10		06/03/22 17:32	460-00-4	1c
1,2-Dichloroethane-d4 (S)	102	%	70-130		10		06/03/22 17:32	17060-07-0	1c
Toluene-d8 (S)	103	%	70-130		10		06/03/22 17:32	2037-26-5	1c
Dibromofluoromethane (S)	102	%	70-130		10		06/03/22 17:32	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30488875

Sample: CO195-MWS **Lab ID: 30488875003** Collected: 05/12/22 11:50 Received: 05/12/22 22:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	85600	ug/L	500	169	500		06/03/22 18:44	71-43-2	1c,H1
Ethylbenzene	73.7	ug/L	10.0	4.0	10		06/03/22 17:56	100-41-4	1c,H1
Naphthalene	2310	ug/L	40.0	21.3	10		06/03/22 17:56	91-20-3	1c,H1
Toluene	3520	ug/L	10.0	3.2	10		06/03/22 17:56	108-88-3	1c,H1
Xylene (Total)	969	ug/L	30.0	13.5	10		06/03/22 17:56	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		10		06/03/22 17:56	460-00-4	1c
1,2-Dichloroethane-d4 (S)	98	%	70-130		10		06/03/22 17:56	17060-07-0	1c
Toluene-d8 (S)	100	%	70-130		10		06/03/22 17:56	2037-26-5	1c
Dibromofluoromethane (S)	98	%	70-130		10		06/03/22 17:56	1868-53-7	1c

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30488875

Sample: CO196-MWS **Lab ID: 30488875004** Collected: 05/12/22 14:15 Received: 05/12/22 22:35 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	20300	ug/L	100	33.8	100		06/03/22 19:33	71-43-2	1c,H1
Ethylbenzene	15.1	ug/L	10.0	4.0	10		06/03/22 19:08	100-41-4	1c,H1
Naphthalene	541	ug/L	40.0	21.3	10		06/03/22 19:08	91-20-3	1c,H1
Toluene	670	ug/L	10.0	3.2	10		06/03/22 19:08	108-88-3	1c,H1
Xylene (Total)	189	ug/L	30.0	13.5	10		06/03/22 19:08	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		10		06/03/22 19:08	460-00-4	1c
1,2-Dichloroethane-d4 (S)	102	%	70-130		10		06/03/22 19:08	17060-07-0	1c
Toluene-d8 (S)	101	%	70-130		10		06/03/22 19:08	2037-26-5	1c
Dibromofluoromethane (S)	101	%	70-130		10		06/03/22 19:08	1868-53-7	1c

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30488875

Sample: CO60-PZP001 **Lab ID: 30488875005** Collected: 05/12/22 15:10 Received: 05/12/22 22:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	57.2	ug/L	1.0	0.34	1		06/03/22 13:29	71-43-2	1c,H1
Ethylbenzene	2.2	ug/L	1.0	0.40	1		06/03/22 13:29	100-41-4	1c,H1
Naphthalene	360	ug/L	4.0	2.1	1		06/03/22 13:29	91-20-3	1c,H1
Toluene	10.1	ug/L	1.0	0.32	1		06/03/22 13:29	108-88-3	1c,H1
Xylene (Total)	40.1	ug/L	3.0	1.4	1		06/03/22 13:29	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		06/03/22 13:29	460-00-4	1c
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		06/03/22 13:29	17060-07-0	1c
Toluene-d8 (S)	101	%	70-130		1		06/03/22 13:29	2037-26-5	1c
Dibromofluoromethane (S)	99	%	70-130		1		06/03/22 13:29	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30488875

Sample: CO58-PZM001 **Lab ID: 30488875006** Collected: 05/12/22 15:55 Received: 05/12/22 22:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		06/03/22 13:05	71-43-2	1c,H1
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		06/03/22 13:05	100-41-4	1c,H1
Naphthalene	4.0 U	ug/L	4.0	2.1	1		06/03/22 13:05	91-20-3	1c,H1
Toluene	1.0 U	ug/L	1.0	0.32	1		06/03/22 13:05	108-88-3	1c,H1
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		06/03/22 13:05	1330-20-7	1c
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		06/03/22 13:05	460-00-4	1c
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		06/03/22 13:05	17060-07-0	1c
Toluene-d8 (S)	102	%	70-130		1		06/03/22 13:05	2037-26-5	1c
Dibromofluoromethane (S)	103	%	70-130		1		06/03/22 13:05	1868-53-7	1c

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: COA 20010210
Pace Project No.: 30488875

QC Batch: 507311 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30488875001, 30488875002, 30488875003, 30488875004, 30488875005, 30488875006

METHOD BLANK: 2458061 Matrix: Water
Associated Lab Samples: 30488875001, 30488875002, 30488875003, 30488875004, 30488875005, 30488875006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	1.0 U	1.0	0.34	06/03/22 11:04	1c
Ethylbenzene	ug/L	1.0 U	1.0	0.40	06/03/22 11:04	1c
Naphthalene	ug/L	4.0 U	4.0	2.1	06/03/22 11:04	1c
Toluene	ug/L	1.0 U	1.0	0.32	06/03/22 11:04	1c
Xylene (Total)	ug/L	3.0 U	3.0	1.4	06/03/22 11:04	1c
1,2-Dichloroethane-d4 (S)	%	102	70-130		06/03/22 11:04	1c
4-Bromofluorobenzene (S)	%	101	70-130		06/03/22 11:04	1c
Dibromofluoromethane (S)	%	103	70-130		06/03/22 11:04	1c
Toluene-d8 (S)	%	101	70-130		06/03/22 11:04	1c

LABORATORY CONTROL SAMPLE: 2458062

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.6	93	70-130	1c
Ethylbenzene	ug/L	20	19.0	95	70-130	1c
Naphthalene	ug/L	20	18.7	94	55-160	1c
Toluene	ug/L	20	19.2	96	70-130	1c
Xylene (Total)	ug/L	60	56.5	94	70-130	1c
1,2-Dichloroethane-d4 (S)	%			101	70-130	1c
4-Bromofluorobenzene (S)	%			99	70-130	1c
Dibromofluoromethane (S)	%			101	70-130	1c
Toluene-d8 (S)	%			103	70-130	1c

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: COA 20010210

Pace Project No.: 30488875

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 507311

[1] An MS and MSD were not analyzed for this batch due to instrumentation issues and insufficient sample volume.

ANALYTE QUALIFIERS

1c An MS and MSD were not analyzed for this batch due to instrumentation issues and insufficient sample volume.

H1 Analysis conducted outside the EPA method holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COA 20010210

Pace Project No.: 30488875

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30488875001	Trip Blank Wt 1	EPA 8260B	507311		
30488875002	CO194-MWS	EPA 8260B	507311		
30488875003	CO195-MWS	EPA 8260B	507311		
30488875004	CO196-MWS	EPA 8260B	507311		
30488875005	CO60-PZP001	EPA 8260B	507311		
30488875006	CO58-PZM001	EPA 8260B	507311		

REPORT OF LABORATORY ANALYSIS

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Section A
Required Client Information:

Company: TradePoint Atlantic
 Address: 1600 Sparrows Point Blvd
 Sparrows Point, MD 21219
 Email To: _____
 Phone: _____ Fax: _____
 Project Name: COA
 Project Number: 20010210
 Requested Due Date/TAT: 5 day

Section B
 Required Project Information:
 Report To: Bob Tworkowski
 Copy To: Stew Kabis
 Attention: Bob Tworkowski
 Company Name: TradePoint Atlantic
 Address: 1600 Sparrows Point Blvd, Sparrows Point, MD 21219
 Pace Quote Reference: _____
 Pace Project Manager: _____
 Pace Profile #: _____

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER _____

Site Location
 STATE: MD

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Preservatives						Analysis Test ↑	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB				DATE	TIME	DATE	TIME	H ₂ O ₂	HNO ₃			
1		DRINKING WATER 1771				WT	2									
2	Trip Blank Wt 1	WASTE WATER 1772				WT	3									
3	CO194-MWS	PRODUCT 1773	5/17/22	1040	WTG	WTG	3									
4	CO195-MWS	SOIL/SOLID 1774		1150	WTG	WTG	3									
5	CO196-MWS	OIL 1775		1415	WTG	WTG	3									
6	CO60-PZP0001	WIPE 1776		1510	WTG	WTG	3									
7	CO58-PZM001	AIR 1777		1555	WTG	WTG	3									
8		OTHER 1778														
9		TISSUE 1779														
10																
11																
12																

Requested Analysis Filtered (Y/N)

Accepted By / Affiliation: _____ DATE: 05/17/22 TIME: 1615
 _____ DATE: 5-22-22 TIME: 1850
 _____ DATE: 5-22-22 TIME: 2235

Sample Conditions: _____

Received on Ice (Y/N) _____ Cooled (Y/N) _____ Samples Intact (Y/N) _____

DATE Signed (MM/DD/YYYY): 05/12/22

SAMPLER NAME AND SIGNATURE: TOM PALANK

PRINT Name of SAMPLER: _____

SIGNATURE of SAMPLER: _____

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Tradepoint

Project # 30488875

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Label MJS
LIMS Login JPMJS
m

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 17 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.6 °C Correction Factor: 16.0 °C Final Temp: 2.6 °C

Temp should be above freezing to 6°C

pH paper Lot# NA Date and Initials of person examining contents: MJS 5-13-22

Comments:

Yes No N/A

Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.		
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.		
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.		
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.		
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.		
-Includes date/time/ID Matrix: <u>Ut</u>						
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.		
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.		
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.		
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.		
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.		
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.		
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.		
Hex Cr Aqueous sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.		
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.		
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.		
All containers have been checked for preservation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.		
exceptions: <input checked="" type="radio"/> VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix						
All containers meet method preservation requirements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed	<u>MJS</u>	Date/time of preservation
				Lot # of added preservative		
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17.		
Trip Blank Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18.		
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Rad Samples Screened < 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed:		Survey Meter SN:

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 08, 2022

Mr. Bob Tworkowski
Tradepoint Atlantic
1600 Sparrow's Point Boulevard
Sparrows Point, MD 21219

RE: Project: COA 20010210
Pace Project No.: 30491551

Dear Mr. Tworkowski:

Enclosed are the analytical results for sample(s) received by the laboratory on May 23, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

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

Sincerely,



Skyler C. Richmond
skyler.richmond@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Kaye Guille, ARM Group Inc.
J.Price, ARM Group Inc.
Stewart Kabis, ARM Group Inc.
Mr. Eric S. Magdar, ARM Group Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: COA 20010210

Pace Project No.: 30491551

Pace Analytical Services Pennsylvania

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

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: COA 20010210

Pace Project No.: 30491551

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30491551001	Trip Blank Wt 1	Water	05/23/22 15:10	05/23/22 22:00
30491551002	C055-PZM000	Water	05/23/22 15:10	05/23/22 22:00
30491551003	C024-PZM007	Water	05/23/22 14:42	05/23/22 22:00
30491551004	C059-PZP002	Water	05/23/22 12:48	05/23/22 22:00
30491551005	C056-PZP001	Water	05/23/22 11:05	05/23/22 22:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: COA 20010210

Pace Project No.: 30491551

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30491551001	Trip Blank Wt 1	EPA 8260B	AJC	9	PASI-PA
30491551002	C055-PZM000	EPA 8260B	AJC	9	PASI-PA
30491551003	C024-PZM007	EPA 8260B	AJC	9	PASI-PA
30491551004	C059-PZP002	EPA 8260B	AJC	9	PASI-PA
30491551005	C056-PZP001	EPA 8260B	AJC	9	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30491551

Date: June 08, 2022

C055-PZM000 (Lab ID: 30491551002)

- The pH of the VOA vial used for analysis was 9.

C056-PZP001 (Lab ID: 30491551005)

- Residual Chlorine was present in the VOA vial used for analysis.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30491551

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: June 08, 2022

General Information:

5 samples were analyzed for EPA 8260B by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30491551

Sample: Trip Blank Wt 1 **Lab ID: 30491551001** Collected: 05/23/22 15:10 Received: 05/23/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		06/01/22 17:21	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		06/01/22 17:21	100-41-4	
Naphthalene	4.0 U	ug/L	4.0	2.1	1		06/01/22 17:21	91-20-3	
Toluene	1.0 U	ug/L	1.0	0.32	1		06/01/22 17:21	108-88-3	
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		06/01/22 17:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		06/01/22 17:21	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		06/01/22 17:21	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		06/01/22 17:21	2037-26-5	
Dibromofluoromethane (S)	97	%	70-130		1		06/01/22 17:21	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30491551

Sample: C055-PZM000 **Lab ID: 30491551002** Collected: 05/23/22 15:10 Received: 05/23/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		06/03/22 11:30	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		06/03/22 11:30	100-41-4	
Naphthalene	4.0 U	ug/L	4.0	2.1	1		06/03/22 11:30	91-20-3	
Toluene	1.0 U	ug/L	1.0	0.32	1		06/03/22 11:30	108-88-3	
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		06/03/22 11:30	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	108	%	70-130		1		06/03/22 11:30	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		06/03/22 11:30	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		06/03/22 11:30	2037-26-5	
Dibromofluoromethane (S)	98	%	70-130		1		06/03/22 11:30	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30491551

Sample: C024-PZM007 **Lab ID: 30491551003** Collected: 05/23/22 14:42 Received: 05/23/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	4.4	ug/L	1.0	0.34	1		06/03/22 12:21	71-43-2	
Ethylbenzene	3.1	ug/L	1.0	0.40	1		06/03/22 12:21	100-41-4	
Naphthalene	2770	ug/L	200	106	50		06/03/22 12:47	91-20-3	
Toluene	2.0	ug/L	1.0	0.32	1		06/03/22 12:21	108-88-3	
Xylene (Total)	4.4	ug/L	3.0	1.4	1		06/03/22 12:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		06/03/22 12:21	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		06/03/22 12:21	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		06/03/22 12:21	2037-26-5	
Dibromofluoromethane (S)	99	%	70-130		1		06/03/22 12:21	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30491551

Sample: C059-PZP002 **Lab ID: 30491551004** Collected: 05/23/22 12:48 Received: 05/23/22 22:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		06/03/22 11:05	71-43-2	
Ethylbenzene	0.41J	ug/L	1.0	0.40	1		06/03/22 11:05	100-41-4	
Naphthalene	4.0 U	ug/L	4.0	2.1	1		06/03/22 11:05	91-20-3	
Toluene	0.48J	ug/L	1.0	0.32	1		06/03/22 11:05	108-88-3	
Xylene (Total)	2.8J	ug/L	3.0	1.4	1		06/03/22 11:05	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		1		06/03/22 11:05	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		06/03/22 11:05	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		06/03/22 11:05	2037-26-5	
Dibromofluoromethane (S)	99	%	70-130		1		06/03/22 11:05	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30491551

Sample: C056-PZP001 **Lab ID: 30491551005** Collected: 05/23/22 11:05 Received: 05/23/22 22:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	291	ug/L	5.0	1.7	5		06/03/22 13:12	71-43-2	
Ethylbenzene	10.3	ug/L	5.0	2.0	5		06/03/22 13:12	100-41-4	
Naphthalene	1810	ug/L	20.0	10.6	5		06/03/22 13:12	91-20-3	
Toluene	173	ug/L	5.0	1.6	5		06/03/22 13:12	108-88-3	
Xylene (Total)	216	ug/L	15.0	6.8	5		06/03/22 13:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		5		06/03/22 13:12	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		5		06/03/22 13:12	17060-07-0	
Toluene-d8 (S)	100	%	70-130		5		06/03/22 13:12	2037-26-5	
Dibromofluoromethane (S)	96	%	70-130		5		06/03/22 13:12	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: COA 20010210
Pace Project No.: 30491551

QC Batch: 508659 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30491551001, 30491551002, 30491551003, 30491551004, 30491551005

METHOD BLANK: 2464179 Matrix: Water
Associated Lab Samples: 30491551001, 30491551002, 30491551003, 30491551004, 30491551005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	1.0 U	1.0	0.34	06/01/22 15:10	
Ethylbenzene	ug/L	1.0 U	1.0	0.40	06/01/22 15:10	
Naphthalene	ug/L	4.0 U	4.0	2.1	06/01/22 15:10	
Toluene	ug/L	1.0 U	1.0	0.32	06/01/22 15:10	
Xylene (Total)	ug/L	3.0 U	3.0	1.4	06/01/22 15:10	
1,2-Dichloroethane-d4 (S)	%	101	70-130		06/01/22 15:10	
4-Bromofluorobenzene (S)	%	104	70-130		06/01/22 15:10	
Dibromofluoromethane (S)	%	97	70-130		06/01/22 15:10	
Toluene-d8 (S)	%	100	70-130		06/01/22 15:10	

LABORATORY CONTROL SAMPLE: 2464180

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.7	103	70-130	
Ethylbenzene	ug/L	20	19.8	99	70-130	
Naphthalene	ug/L	20	18.8	94	55-160	
Toluene	ug/L	20	20.8	104	70-130	
Xylene (Total)	ug/L	60	59.0	98	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			93	70-130	
Dibromofluoromethane (S)	%			95	70-130	
Toluene-d8 (S)	%			106	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2466743 2466744

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		30491237014 Result	Spike Conc.	Spike Conc.	Result						
Benzene	ug/L	ND	20	20	19.8	18.8	99	94	50-149	5	30 H1
Ethylbenzene	ug/L	ND	20	20	17.0	16.2	85	81	63-135	5	30 H1
Naphthalene	ug/L	ND	20	20	16.6	16.3	83	82	30-157	2	30 H1
Toluene	ug/L	ND	20	20	18.3	17.2	92	86	59-139	6	30 H1
Xylene (Total)	ug/L	ND	60	60	48.6	47.9	81	80	63-135	1	30
1,2-Dichloroethane-d4 (S)	%						98	100	70-130		
4-Bromofluorobenzene (S)	%						101	102	70-130		
Dibromofluoromethane (S)	%						98	99	70-130		
Toluene-d8 (S)	%						101	101	70-130		

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: COA 20010210

Pace Project No.: 30491551

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 30491551002

[1] The pH of the VOA vial used for analysis was 9.

Sample: 30491551005

[1] Residual Chlorine was present in the VOA vial used for analysis.

ANALYTE QUALIFIERS

H1 Analysis conducted outside the EPA method holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COA 20010210

Pace Project No.: 30491551

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30491551001	Trip Blank Wt 1	EPA 8260B	508659		
30491551002	C055-PZM000	EPA 8260B	508659		
30491551003	C024-PZM007	EPA 8260B	508659		
30491551004	C059-PZP002	EPA 8260B	508659		
30491551005	C056-PZP001	EPA 8260B	508659		

REPORT OF LABORATORY ANALYSIS

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WO#: 30491551



30491551

Document
dated accurately.

Page: _____ of _____

Section A
Required Client Information:

Company: Tradepoint Atlantic
Address: 1600 Sparrows Point Blvd
Sparrows Point, MD 21219

Section B
Required Project Information:

Report To: Bob Tworowski
Copy To: Stew Kabis

PO Number:
Project Name: COA
Project Number: 20010210
Requested Due Date/TAT: 5 day

Author: Bob Tworowski
Company Name: Tradepoint Atlantic
Address: 1600 Sparrows Point Blvd, Sparrows Point, MD 21219

Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location
STATE: MD

ITEM #	Valid Matrix Codes MATRIX CODE	MATRIX	DRINKING WATER W1 WATER W2 WASTE WATER W3 PRODUCT LIQUID L1 SOLID L2 WASTE W3 AIR A1 OTHER O1 TISSUE T1	SAMPLE TYPE (G-RAB C-COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	Preservatives						Analysis Test ↑	BTEX and naphthalene via 8260	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB				H2SO4	HNO3	HCl	NaOH	Na2S2O3	Other				
1								2											
2								4											
3								3											
4								3											
5								3											
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Requested Analysis Filtered (Y/N)

REQUISITED BY / AFFILIATION
DATE TIME

ACCEPTED BY / AFFILIATION
DATE TIME

ADDITIONAL COMMENTS

Data Package Required? (Y/N): No
Date: 5/27/22 1745
Signature: [Signature]

Data Validation Required? (Y/N): No
Date: 5/23/22 1745
Signature: [Signature]

Received on _____
Cooler (Y/N) _____
Custody Sealed _____
Samples Intact (Y/N) _____

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Tom Valank
SIGNATURE of SAMPLER: [Signature]

DATE SIGNED (MM/DD/YY): 5/23/22

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Tradeport

Project # 3049051

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Label MJS
LIMS Login MJS

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used 17 Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 1.1 °C Correction Factor: 0.0 °C Final Temp: 0.0 °C

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot#	Date and Initials of person examining contents:	
				<u>NA</u>	<u>SJM 5/25/22</u>	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Sample Labels match COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
-Includes date/time/ID Matrix: <u>WJ</u>						
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Hex Cr Aqueous sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
All containers have been checked for preservation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
exceptions: <u>VOA</u> coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix						
All containers meet method preservation requirements.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed <u>SJM</u>	Date/time of preservation	
				Lot # of added preservative		
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>X</u>	<u>SJM 5/24/22</u>	
Trip Blank Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Rad Samples Screened < 0.5 mrem/hr	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Initial when completed:	Date:	Survey Meter SN:

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 23, 2022

Mr. Bob Tworkowski
Tradepoint Atlantic
1600 Sparrow's Point Boulevard
Sparrows Point, MD 21219

RE: Project: COA 20010210
Pace Project No.: 30495652

Dear Mr. Tworkowski:

Enclosed are the analytical results for sample(s) received by the laboratory on June 07, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

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

Sincerely,



Skyler C. Richmond
skyler.richmond@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Kaye Guille, ARM Group Inc.
J.Price, ARM Group Inc.
Stewart Kabis, ARM Group Inc.
Mr. Eric S. Magdar, ARM Group Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: COA 20010210

Pace Project No.: 30495652

Pace Analytical Services Pennsylvania

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

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: COA 20010210

Pace Project No.: 30495652

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30495652001	Trip Blank-1	Water	06/07/22 00:00	06/07/22 22:15
30495652002	CO209-MWI	Water	06/07/22 10:15	06/07/22 22:15
30495652003	CO209-MWS	Water	06/07/22 10:55	06/07/22 22:15
30495652004	CO198-MWS	Water	06/07/22 12:15	06/07/22 22:15
30495652005	CO30-PZM015	Water	06/07/22 13:15	06/07/22 22:15
30495652006	CO30-PZM060	Water	06/07/22 14:05	06/07/22 22:15
30495652007	CO201-MWS	Water	06/07/22 15:13	06/07/22 22:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: COA 20010210
Pace Project No.: 30495652

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30495652001	Trip Blank-1	EPA 8260B	AJC	9	PASI-PA
30495652002	CO209-MWI	EPA 8260B	AJC	9	PASI-PA
30495652003	CO209-MWS	EPA 8260B	AJC	9	PASI-PA
30495652004	CO198-MWS	EPA 8260B	AJC	9	PASI-PA
30495652005	CO30-PZM015	EPA 8260B	AJC	9	PASI-PA
30495652006	CO30-PZM060	EPA 8260B	AJC	9	PASI-PA
30495652007	CO201-MWS	EPA 8260B	AJC	9	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30495652

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: June 23, 2022

General Information:

7 samples were analyzed for EPA 8260B by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30495652

Sample: Trip Blank-1 Lab ID: 30495652001 Collected: 06/07/22 00:00 Received: 06/07/22 22:15 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		06/21/22 14:20	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		06/21/22 14:20	100-41-4	
Naphthalene	4.0 U	ug/L	4.0	2.1	1		06/21/22 14:20	91-20-3	
Toluene	1.0 U	ug/L	1.0	0.32	1		06/21/22 14:20	108-88-3	
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		06/21/22 14:20	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	114	%	70-130		1		06/21/22 14:20	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130		1		06/21/22 14:20	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		06/21/22 14:20	2037-26-5	
Dibromofluoromethane (S)	105	%	70-130		1		06/21/22 14:20	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30495652

Sample: CO209-MWI		Lab ID: 30495652002		Collected: 06/07/22 10:15		Received: 06/07/22 22:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1910	ug/L	5.0	1.7	5		06/21/22 19:30	71-43-2	
Ethylbenzene	82.0	ug/L	5.0	2.0	5		06/21/22 19:30	100-41-4	
Naphthalene	18500	ug/L	800	425	200		06/21/22 19:56	91-20-3	
Toluene	5.1	ug/L	5.0	1.6	5		06/21/22 19:30	108-88-3	
Xylene (Total)	56.5	ug/L	15.0	6.8	5		06/21/22 19:30	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	84	%	70-130		5		06/21/22 19:30	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		5		06/21/22 19:30	17060-07-0	
Toluene-d8 (S)	93	%	70-130		5		06/21/22 19:30	2037-26-5	
Dibromofluoromethane (S)	98	%	70-130		5		06/21/22 19:30	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30495652

Sample: CO209-MWS		Lab ID: 30495652003		Collected: 06/07/22 10:55		Received: 06/07/22 22:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	12.8	ug/L	5.0	1.7	5		06/21/22 20:22	71-43-2	
Ethylbenzene	5.0 U	ug/L	5.0	2.0	5		06/21/22 20:22	100-41-4	
Naphthalene	1730	ug/L	20.0	10.6	5		06/21/22 20:22	91-20-3	
Toluene	3.8J	ug/L	5.0	1.6	5		06/21/22 20:22	108-88-3	
Xylene (Total)	11.9J	ug/L	15.0	6.8	5		06/21/22 20:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		5		06/21/22 20:22	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		5		06/21/22 20:22	17060-07-0	
Toluene-d8 (S)	92	%	70-130		5		06/21/22 20:22	2037-26-5	
Dibromofluoromethane (S)	101	%	70-130		5		06/21/22 20:22	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30495652

Sample: CO198-MWS **Lab ID: 30495652004** Collected: 06/07/22 12:15 Received: 06/07/22 22:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	282	ug/L	5.0	1.7	5		06/21/22 18:39	71-43-2	
Ethylbenzene	2.6J	ug/L	5.0	2.0	5		06/21/22 18:39	100-41-4	
Naphthalene	1320	ug/L	20.0	10.6	5		06/21/22 18:39	91-20-3	
Toluene	65.1	ug/L	5.0	1.6	5		06/21/22 18:39	108-88-3	
Xylene (Total)	37.4	ug/L	15.0	6.8	5		06/21/22 18:39	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		5		06/21/22 18:39	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130		5		06/21/22 18:39	17060-07-0	
Toluene-d8 (S)	93	%	70-130		5		06/21/22 18:39	2037-26-5	
Dibromofluoromethane (S)	105	%	70-130		5		06/21/22 18:39	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30495652

Sample: CO30-PZM015 **Lab ID: 30495652005** Collected: 06/07/22 13:15 Received: 06/07/22 22:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	134000	ug/L	500	169	500		06/21/22 21:39	71-43-2	
Ethylbenzene	96.1	ug/L	5.0	2.0	5		06/21/22 21:13	100-41-4	
Naphthalene	1650	ug/L	20.0	10.6	5		06/21/22 21:13	91-20-3	
Toluene	9830	ug/L	500	158	500		06/21/22 21:39	108-88-3	
Xylene (Total)	1250	ug/L	15.0	6.8	5		06/21/22 21:13	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		5		06/21/22 21:13	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		5		06/21/22 21:13	17060-07-0	
Toluene-d8 (S)	95	%	70-130		5		06/21/22 21:13	2037-26-5	
Dibromofluoromethane (S)	103	%	70-130		5		06/21/22 21:13	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30495652

Sample: CO30-PZM060 **Lab ID: 30495652006** Collected: 06/07/22 14:05 Received: 06/07/22 22:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	4.4	ug/L	1.0	0.34	1		06/21/22 13:55	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		06/21/22 13:55	100-41-4	
Naphthalene	4.0 U	ug/L	4.0	2.1	1		06/21/22 13:55	91-20-3	
Toluene	1.0 U	ug/L	1.0	0.32	1		06/21/22 13:55	108-88-3	
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		06/21/22 13:55	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	117	%	70-130		1		06/21/22 13:55	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130		1		06/21/22 13:55	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		06/21/22 13:55	2037-26-5	
Dibromofluoromethane (S)	104	%	70-130		1		06/21/22 13:55	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30495652

Sample: CO201-MWS **Lab ID: 30495652007** Collected: 06/07/22 15:13 Received: 06/07/22 22:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	2280	ug/L	100	33.8	100		06/21/22 16:55	71-43-2	
Ethylbenzene	6.0	ug/L	1.0	0.40	1		06/21/22 16:29	100-41-4	
Naphthalene	227	ug/L	4.0	2.1	1		06/21/22 16:29	91-20-3	
Toluene	189	ug/L	1.0	0.32	1		06/21/22 16:29	108-88-3	
Xylene (Total)	89.8	ug/L	3.0	1.4	1		06/21/22 16:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		06/21/22 16:29	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		06/21/22 16:29	17060-07-0	
Toluene-d8 (S)	93	%	70-130		1		06/21/22 16:29	2037-26-5	
Dibromofluoromethane (S)	102	%	70-130		1		06/21/22 16:29	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: COA 20010210
Pace Project No.: 30495652

QC Batch: 513309 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30495652001, 30495652002, 30495652003, 30495652004, 30495652005, 30495652006, 30495652007

METHOD BLANK: 2487872 Matrix: Water
Associated Lab Samples: 30495652001, 30495652002, 30495652003, 30495652004, 30495652005, 30495652006, 30495652007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	1.0 U	1.0	0.34	06/21/22 13:29	
Ethylbenzene	ug/L	1.0 U	1.0	0.40	06/21/22 13:29	
Naphthalene	ug/L	4.0 U	4.0	2.1	06/21/22 13:29	
Toluene	ug/L	1.0 U	1.0	0.32	06/21/22 13:29	
Xylene (Total)	ug/L	3.0 U	3.0	1.4	06/21/22 13:29	
1,2-Dichloroethane-d4 (S)	%	109	70-130		06/21/22 13:29	
4-Bromofluorobenzene (S)	%	120	70-130		06/21/22 13:29	
Dibromofluoromethane (S)	%	105	70-130		06/21/22 13:29	
Toluene-d8 (S)	%	95	70-130		06/21/22 13:29	

LABORATORY CONTROL SAMPLE: 2487873

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.2	101	70-130	
Ethylbenzene	ug/L	20	20.7	104	70-130	
Naphthalene	ug/L	20	14.3	71	55-160	
Toluene	ug/L	20	20.2	101	70-130	
Xylene (Total)	ug/L	60	62.0	103	70-130	
1,2-Dichloroethane-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			108	70-130	
Dibromofluoromethane (S)	%			102	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2487874 2487875

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		30495652006 Result	Spike Conc.	Spike Conc.	MSD Result							
Benzene	ug/L	4.4	20	20	25.0	25.5	103	105	50-149	2	30	
Ethylbenzene	ug/L	1.0 U	20	20	18.1	18.1	90	91	63-135	0	30	
Naphthalene	ug/L	4.0 U	20	20	15.8	15.2	79	76	30-157	4	30	
Toluene	ug/L	1.0 U	20	20	17.8	18.8	88	93	59-139	5	30	
Xylene (Total)	ug/L	3.0 U	60	60	53.3	54.0	89	90	63-135	1	30	
1,2-Dichloroethane-d4 (S)	%						103	112	70-130			
4-Bromofluorobenzene (S)	%						108	108	70-130			
Dibromofluoromethane (S)	%						99	109	70-130			
Toluene-d8 (S)	%						91	94	70-130			

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: COA 20010210

Pace Project No.: 30495652

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COA 20010210

Pace Project No.: 30495652

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30495652001	Trip Blank-1	EPA 8260B	513309		
30495652002	CO209-MWI	EPA 8260B	513309		
30495652003	CO209-MWS	EPA 8260B	513309		
30495652004	CO198-MWS	EPA 8260B	513309		
30495652005	CO30-PZM015	EPA 8260B	513309		
30495652006	CO30-PZM060	EPA 8260B	513309		
30495652007	CO201-MWS	EPA 8260B	513309		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Tradepoint Atlantic	Report To:	Bob Twokowski	Attention:	Bob Twokowski
Address:	1600 Sparrows Point Blvd	Copy To:	Stew Kabis	Company Name:	Tradepoint Atlantic
	Sparrows Point, MD 21219			Address:	1600 Sparrows Point Blvd, Sparrows Point, MD
Email To:		PO Number:		Pace Quote Reference:	
Phone:		Project Name:	COA	Pace Project Manager:	
Requested Due Date(TAT):	5 day	Project Number:	20010210	Pace Profile #:	
				Site Location:	MD
				STATE:	MD

WO#: 30495652

30495652

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER (W) WATER (WA) WASTE WATER (WW) PRODUCT (P) SOLIDS (S) OIL (O) WIPE (WI) AIR (A) OTHER (O) TISSUE (T)	COLLECTED		SAMPLE TYPE (G=GRAB C-COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Preservatives						Analysis Test	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB				DATE	TIME	H ₂ SO ₄	HNO ₃	HCl	NaOH			
1						WT	2									
2	Trip Blank Wt 1					WT	2									
3	C0209-MWI					WT	3									
4	C0209-MWS					WT	3									
5	C0198-MWS					WT	3									
6	C030-P2M015					WT	3									
7	C030-P2M060					WT	3									
8	C020-MWS					WT	3									
9																
10																
11																
12																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Data Package Required? (Y/N): No	AKM	6/17/12	1553	AKM	06/18/12	1555	
Data Validation Required? (Y/N): No	AKM	06/18/12	1545	RDS	6/18/12	1550	
	RDS	6/18/12	1545	RDS	07-00	1545	

SAMPLER NAME AND SIGNATURE		Received on	Custody Sealed	Cooler (Y/N)	Samples Intact
PRINT Name of SAMPLER: TOM PALANK		Ice (Y/N)			
SIGNATURE of SAMPLER: <i>[Signature]</i>		Residual Chlorine (Y/N)			
		DATE Signed (MM/DD/YY):	06/18/12		

Pittsburgh Lab Sample Condition Upon Receipt



Client Name: Trade Point Atlantic Project #

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Label
LIMS Login AA

Tracking #:
Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Thermometer Used M Type of Ice: Wet Blue None

Cooler Temperature Observed Temp 2.8 °C Correction Factor: 0 °C Final Temp: 2.8 °C
Temp should be above freezing to 6°C

WO#: 30495652
 Due Date: 06/15/22
 PM: SCR
 CLIENT: TRADEPOINT

Comments:	pH paper Lot#			Date and Initials of person examining contents: <u>6/15/22 AA</u>
	Yes	No	N/A	
Chain of Custody Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Sample Labels match COC:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. <u>P2 mmo G's labeled wrong on samples</u>
-Includes date/time/ID Matrix: <u>WT</u>				
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Short Hold Time Analysis (<72hr remaining):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sufficient Volume:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Correct Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
-Pace Containers Used:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.
Orthophosphate field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12.
Hex Cr Aqueous sample field filtered	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13.
Organic Samples checked for dechlorination:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Filtered volume received for Dissolved tests	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
All containers have been checked for preservation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	16.
exceptions: <u>VOA</u> , coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix				
All containers meet method preservation requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: <u>AA</u> Date/time of preservation: <u> </u>
				Lot # of added preservative: <u> </u>
Headspace in VOA Vials (>6mm):	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17.
Trip Blank Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rad Samples Screened < 0.5 mrem/hr	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Initial when completed: <u> </u> Date: <u> </u> Survey Meter SN: <u> </u>

Client Notification/ Resolution:
 Person Contacted: Date/Time: Contacted By:
 Comments/ Resolution:

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
 *PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

June 24, 2022

Mr. Bob Tworkowski
Tradepoint Atlantic
1600 Sparrow's Point Boulevard
Sparrows Point, MD 21219

RE: Project: COA 20010210
Pace Project No.: 30496658

Dear Mr. Tworkowski:

Enclosed are the analytical results for sample(s) received by the laboratory on June 08, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

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

Sincerely,



Skyler C. Richmond
skyler.richmond@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Kaye Guille, ARM Group Inc.
J.Price, ARM Group Inc.
Stewart Kabis, ARM Group Inc.
Mr. Eric S. Magdar, ARM Group Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: COA 20010210

Pace Project No.: 30496658

Pace Analytical Services Pennsylvania

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

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: COA 20010210

Pace Project No.: 30496658

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30496658001	Trip Blank	Water	06/08/22 00:01	06/08/22 22:45
30496658002	CO195-MWS	Water	06/08/22 09:24	06/08/22 22:45
30496658003	CO186-MWS	Water	06/08/22 10:55	06/08/22 22:45
30496658004	CO37-PZM003	Water	06/08/22 12:35	06/08/22 22:45
30496658005	CO37-PZM038	Water	06/08/22 13:50	06/08/22 22:45
30496658006	CO42-PZM004	Water	06/08/22 15:33	06/08/22 22:45

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SAMPLE ANALYTE COUNT

Project: COA 20010210

Pace Project No.: 30496658

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30496658001	Trip Blank	EPA 8260B	AJC	9	PASI-PA
30496658002	CO195-MWS	EPA 8260B	AJC	9	PASI-PA
30496658003	CO186-MWS	EPA 8260B	AJC	9	PASI-PA
30496658004	CO37-PZM003	EPA 8260B	AJC	9	PASI-PA
30496658005	CO37-PZM038	EPA 8260B	AJC, JEW	9	PASI-PA
30496658006	CO42-PZM004	EPA 8260B	AJC	9	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30496658

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: June 24, 2022

General Information:

6 samples were analyzed for EPA 8260B by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the EPA method holding time.

- CO37-PZM038 (Lab ID: 30496658005)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30496658

Sample: Trip Blank		Lab ID: 30496658001		Collected: 06/08/22 00:01		Received: 06/08/22 22:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV		Analytical Method: EPA 8260B Pace Analytical Services - Greensburg							
Benzene	1.0 U	ug/L	1.0	0.34	1		06/21/22 14:46	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		06/21/22 14:46	100-41-4	
Naphthalene	4.0 U	ug/L	4.0	2.1	1		06/21/22 14:46	91-20-3	
Toluene	1.0 U	ug/L	1.0	0.32	1		06/21/22 14:46	108-88-3	
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		06/21/22 14:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	116	%	70-130		1		06/21/22 14:46	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		06/21/22 14:46	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		06/21/22 14:46	2037-26-5	
Dibromofluoromethane (S)	101	%	70-130		1		06/21/22 14:46	1868-53-7	

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ANALYTICAL RESULTS

Project: COA 20010210
Pace Project No.: 30496658

Sample: CO195-MWS		Lab ID: 30496658002		Collected: 06/08/22 09:24		Received: 06/08/22 22:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV		Analytical Method: EPA 8260B Pace Analytical Services - Greensburg							
Benzene	105000	ug/L	500	169	500		06/21/22 22:30	71-43-2	
Ethylbenzene	66.3	ug/L	5.0	2.0	5		06/21/22 22:05	100-41-4	
Naphthalene	1340	ug/L	20.0	10.6	5		06/21/22 22:05	91-20-3	
Toluene	7600	ug/L	500	158	500		06/21/22 22:30	108-88-3	
Xylene (Total)	855	ug/L	15.0	6.8	5		06/21/22 22:05	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		5		06/21/22 22:05	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		5		06/21/22 22:05	17060-07-0	
Toluene-d8 (S)	96	%	70-130		5		06/21/22 22:05	2037-26-5	
Dibromofluoromethane (S)	105	%	70-130		5		06/21/22 22:05	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30496658

Sample: CO186-MWS **Lab ID: 30496658003** Collected: 06/08/22 10:55 Received: 06/08/22 22:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	31600	ug/L	500	169	500		06/21/22 18:13	71-43-2	
Ethylbenzene	59.7	ug/L	1.0	0.40	1		06/21/22 17:21	100-41-4	
Naphthalene	8.0	ug/L	4.0	2.1	1		06/21/22 17:21	91-20-3	
Toluene	6090	ug/L	50.0	15.8	50		06/21/22 17:47	108-88-3	
Xylene (Total)	976	ug/L	3.0	1.4	1		06/21/22 17:21	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		06/21/22 17:21	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		06/21/22 17:21	17060-07-0	
Toluene-d8 (S)	94	%	70-130		1		06/21/22 17:21	2037-26-5	
Dibromofluoromethane (S)	103	%	70-130		1		06/21/22 17:21	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30496658

Sample: CO37-PZM003 **Lab ID: 30496658004** Collected: 06/08/22 12:35 Received: 06/08/22 22:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	7050	ug/L	50.0	16.9	50		06/21/22 16:03	71-43-2	
Ethylbenzene	125	ug/L	1.0	0.40	1		06/21/22 15:38	100-41-4	
Naphthalene	1050	ug/L	200	106	50		06/21/22 16:03	91-20-3	
Toluene	2840	ug/L	50.0	15.8	50		06/21/22 16:03	108-88-3	
Xylene (Total)	1410	ug/L	150	67.5	50		06/21/22 16:03	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		06/21/22 15:38	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		06/21/22 15:38	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		06/21/22 15:38	2037-26-5	
Dibromofluoromethane (S)	94	%	70-130		1		06/21/22 15:38	1868-53-7	

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30496658

Sample: CO37-PZM038 **Lab ID: 30496658005** Collected: 06/08/22 13:50 Received: 06/08/22 22:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	19100	ug/L	500	169	500		06/23/22 17:27	71-43-2	H1
Ethylbenzene	249	ug/L	5.0	2.0	5		06/21/22 23:47	100-41-4	
Naphthalene	954	ug/L	20.0	10.6	5		06/21/22 23:47	91-20-3	
Toluene	9480	ug/L	500	158	500		06/23/22 17:27	108-88-3	H1
Xylene (Total)	1970	ug/L	15.0	6.8	5		06/21/22 23:47	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		5		06/21/22 23:47	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130		5		06/21/22 23:47	17060-07-0	
Toluene-d8 (S)	95	%	70-130		5		06/21/22 23:47	2037-26-5	
Dibromofluoromethane (S)	104	%	70-130		5		06/21/22 23:47	1868-53-7	

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30496658

Sample: CO42-PZM004 **Lab ID: 30496658006** Collected: 06/08/22 15:33 Received: 06/08/22 22:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	30.7	ug/L	1.0	0.34	1		06/21/22 15:12	71-43-2	
Ethylbenzene	4.0	ug/L	1.0	0.40	1		06/21/22 15:12	100-41-4	
Naphthalene	14.6	ug/L	4.0	2.1	1		06/21/22 15:12	91-20-3	
Toluene	26.5	ug/L	1.0	0.32	1		06/21/22 15:12	108-88-3	
Xylene (Total)	26.9	ug/L	3.0	1.4	1		06/21/22 15:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	112	%	70-130		1		06/21/22 15:12	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130		1		06/21/22 15:12	17060-07-0	
Toluene-d8 (S)	92	%	70-130		1		06/21/22 15:12	2037-26-5	
Dibromofluoromethane (S)	104	%	70-130		1		06/21/22 15:12	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: COA 20010210
Pace Project No.: 30496658

QC Batch: 513309 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30496658001, 30496658002, 30496658003, 30496658004, 30496658005, 30496658006

METHOD BLANK: 2487872 Matrix: Water
Associated Lab Samples: 30496658001, 30496658002, 30496658003, 30496658004, 30496658005, 30496658006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	1.0 U	1.0	0.34	06/21/22 13:29	
Ethylbenzene	ug/L	1.0 U	1.0	0.40	06/21/22 13:29	
Naphthalene	ug/L	4.0 U	4.0	2.1	06/21/22 13:29	
Toluene	ug/L	1.0 U	1.0	0.32	06/21/22 13:29	
Xylene (Total)	ug/L	3.0 U	3.0	1.4	06/21/22 13:29	
1,2-Dichloroethane-d4 (S)	%	109	70-130		06/21/22 13:29	
4-Bromofluorobenzene (S)	%	120	70-130		06/21/22 13:29	
Dibromofluoromethane (S)	%	105	70-130		06/21/22 13:29	
Toluene-d8 (S)	%	95	70-130		06/21/22 13:29	

LABORATORY CONTROL SAMPLE: 2487873

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.2	101	70-130	
Ethylbenzene	ug/L	20	20.7	104	70-130	
Naphthalene	ug/L	20	14.3	71	55-160	
Toluene	ug/L	20	20.2	101	70-130	
Xylene (Total)	ug/L	60	62.0	103	70-130	
1,2-Dichloroethane-d4 (S)	%			103	70-130	
4-Bromofluorobenzene (S)	%			108	70-130	
Dibromofluoromethane (S)	%			102	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2487874 2487875

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		30495652006 Result	Spike Conc.	Spike Conc.	Result						
Benzene	ug/L	4.4	20	20	25.0	25.5	103	105	50-149	2	30
Ethylbenzene	ug/L	1.0 U	20	20	18.1	18.1	90	91	63-135	0	30
Naphthalene	ug/L	4.0 U	20	20	15.8	15.2	79	76	30-157	4	30
Toluene	ug/L	1.0 U	20	20	17.8	18.8	88	93	59-139	5	30
Xylene (Total)	ug/L	3.0 U	60	60	53.3	54.0	89	90	63-135	1	30
1,2-Dichloroethane-d4 (S)	%						103	112	70-130		
4-Bromofluorobenzene (S)	%						108	108	70-130		
Dibromofluoromethane (S)	%						99	109	70-130		
Toluene-d8 (S)	%						91	94	70-130		

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: COA 20010210

Pace Project No.: 30496658

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H1 Analysis conducted outside the EPA method holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COA 20010210

Pace Project No.: 30496658

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30496658001	Trip Blank	EPA 8260B	513309		
30496658002	CO195-MWS	EPA 8260B	513309		
30496658003	CO186-MWS	EPA 8260B	513309		
30496658004	CO37-PZM003	EPA 8260B	513309		
30496658005	CO37-PZM038	EPA 8260B	513309		
30496658006	CO42-PZM004	EPA 8260B	513309		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document
 The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed.

WO# : 30496658

30496658

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Tradepoint Atlantic	Report To:	Bob Tworowski	Attention:	Bob Tworowski
Address:	1600 Sparrows Point Blvd	Copy To:	Stew Kabis	Company Name:	Tradepoint Atlantic
	Sparrows Point, MD 21219	PO Number:		Address:	1600 Sparrows Point Blvd, Sparrows Point, MD 21219
Email To:		Project Name:	COA	Pace Quote Reference:	Pace Project Manager
Phone:		Requested Due Date/TAT:	5 day	Pace Profile #:	
				Requested Analysis Filtered (Y/N):	

ITEM #	Section D Required Client Information	Valid Matrix Codes	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃				
1	Trip Blank Wt 1		WT 1		08/22	08/22		2							X		c4	
2	CO195-MWS		WT 0		08/22	08/22		3							X		c2	
3	CO186-MWS		WT 0		08/22	08/22		3							X		c3	
4	CO37-P2M003		WT 0		08/22	08/22		3							X		c4	
5	CO37-P2M038		WT 0		08/22	08/22		3							X		c5	
6	CO42-P2M004		WT 0		08/22	08/22		3							X		c6	
7																		
8																		
9																		
10																		
11																		
12																		

ADDITIONAL COMMENTS		REQUISITIONED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		Received on Ice (Y/N)		Custody Sealed Cooler (Y/N)		Samples Intact (Y/N)	
Data Package Required? (Y/N): No		Sparrows Point		08/22		1600		Pace		08/22		1600		Y		Y		Y	
Data Validation Required? (Y/N): No		Pace		08/22		1555		Pace		08/22		1600		Y		Y		Y	
		Pace		08/22		1555		Pace		08/22		1600		Y		Y		Y	

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: TOM PALANK
 SIGNATURE of SAMPLER: *[Signature]*

DATE Signed (MM/DD/YYYY): 08/22

Face Analytical

Client Name: Water Rent

Project # _____

Courier: Fed Ex UPS USPS Client Commercial Face Other

Label [Signature]
LIMS Login

Tracking #: _____
Custody Seal on Cooler/Box Present: yes no
Seals intact: yes no

Type of Ice: Yes Blue None

Thermometer Used 16 Observed Temp 2.7 °C Correction Factor: 0 °C Final Temp: 2.7 °C
Temp should be above freezing to 6°C

pH paper Lot# M/
Date and Initials of person examining contents: ms 6-16-22

WO#: 30496658

PH: SCR Due Date: 06/16/22
CLIENT: TRADEPOINT

Chain of Custody Present	Chain of Custody Filled Out	Chain of Custody Relinquished	Sampler Name & Signature on COC	Sample Labels match COC	-Includes date/time/ID Matrix:	Samples Arrived within Hold Time:	Short Hold Time Analysis (<72hr remaining):	Rush Turn Around Time Requested:	Sufficient Volume:	Correct Containers Used:	-Face Containers Used:	Containers Intact:	Orthophosphate field filtered	Hex Cr Aqueous sample field filtered	Organic Samples checked for dechlorination:	Filtered volume received for Dissolved tests	All containers have been checked for preservation.	exceptions: <u>VOA</u> coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	All containers meet method preservation requirements.	Headspace in VOA Vials (>6mm):	Trip Blank Present:	Trip Blank Custody Seals Present	Rad Samples Screened < 0.5 mrem/hr	
/	/	/	/	/	<u>WT</u>	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____ Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS, The review is in the Status section of the Workorder Edit Screen.

June 27, 2022

Mr. Bob Tworkowski
Tradepoint Atlantic
1600 Sparrow's Point Boulevard
Sparrows Point, MD 21219

RE: Project: COA 20010210
Pace Project No.: 30497032

Dear Mr. Tworkowski:

Enclosed are the analytical results for sample(s) received by the laboratory on June 09, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Greensburg

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

Sincerely,



Skyler C. Richmond
skyler.richmond@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Ms. Penny Gardner, Environmental Data Quality, Inc.
Ms. Kaye Guille, ARM Group Inc.
J.Price, ARM Group Inc.
Stewart Kabis, ARM Group Inc.
Mr. Eric S. Magdar, ARM Group Inc.
Ms. Shawne M. Rodgers, Environmental Data Quality, Inc.



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: COA 20010210

Pace Project No.: 30497032

Pace Analytical Services Pennsylvania

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

ANAB DOD-ELAP Rad Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

Delaware Certification

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Florida: Cert E871149 SEKS WET

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA180012

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: 2017020

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572018-1

New Hampshire/TNI Certification #: 297617

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-010

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: 02867

Texas/TNI Certification #: T104704188-17-3

Utah/TNI Certification #: PA014572017-9

USDA Soil Permit #: P330-17-00091

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Approve List for Rad

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: COA 20010210

Pace Project No.: 30497032

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30497032001	Trip Blank WT1	Water	06/09/22 00:00	06/09/22 21:50
30497032002	CO190-MWS	Water	06/09/22 11:35	06/09/22 21:50
30497032003	CO93-MWS	Water	06/09/22 14:20	06/09/22 21:50
30497032004	CO191-MWS	Water	06/09/22 15:15	06/09/22 21:50

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SAMPLE ANALYTE COUNT

Project: COA 20010210

Pace Project No.: 30497032

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30497032001	Trip Blank WT1	EPA 8260B	AJC	9	PASI-PA
30497032002	CO190-MWS	EPA 8260B	AJC	9	PASI-PA
30497032003	CO93-MWS	EPA 8260B	AJC	9	PASI-PA
30497032004	CO191-MWS	EPA 8260B	AJC	9	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30497032

Date: June 27, 2022

MS (Lab ID: 2491158)

- The pH of the VOA vial used for analysis was 4.

MSD (Lab ID: 2491159)

- The pH of the VOA vial used for analysis was 4.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: COA 20010210

Pace Project No.: 30497032

Method: EPA 8260B

Description: 8260B MSV

Client: Tradepoint Atlantic

Date: June 27, 2022

General Information:

4 samples were analyzed for EPA 8260B by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the EPA method holding time.

- CO190-MWS (Lab ID: 30497032002)
- CO191-MWS (Lab ID: 30497032004)
- CO93-MWS (Lab ID: 30497032003)

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 513987

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30497549002

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MSD (Lab ID: 2491159)
 - Ethylbenzene
 - Toluene

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30497032

Sample: Trip Blank WT1 **Lab ID: 30497032001** Collected: 06/09/22 00:00 Received: 06/09/22 21:50 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	1.0 U	ug/L	1.0	0.34	1		06/23/22 16:55	71-43-2	
Ethylbenzene	1.0 U	ug/L	1.0	0.40	1		06/23/22 16:55	100-41-4	
Naphthalene	4.0 U	ug/L	4.0	2.1	1		06/23/22 16:55	91-20-3	
Toluene	1.0 U	ug/L	1.0	0.32	1		06/23/22 16:55	108-88-3	
Xylene (Total)	3.0 U	ug/L	3.0	1.4	1		06/23/22 16:55	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	113	%	70-130		1		06/23/22 16:55	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		06/23/22 16:55	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		06/23/22 16:55	2037-26-5	
Dibromofluoromethane (S)	103	%	70-130		1		06/23/22 16:55	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30497032

Sample: CO190-MWS **Lab ID: 30497032002** Collected: 06/09/22 11:35 Received: 06/09/22 21:50 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	107000	ug/L	1000	338	1000		06/24/22 22:25	71-43-2	H1
Ethylbenzene	7.1J	ug/L	10.0	4.0	10		06/23/22 18:12	100-41-4	
Naphthalene	25.5J	ug/L	40.0	21.3	10		06/23/22 18:12	91-20-3	
Toluene	6950	ug/L	100	31.7	100		06/23/22 18:38	108-88-3	
Xylene (Total)	186	ug/L	30.0	13.5	10		06/23/22 18:12	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	109	%	70-130		10		06/23/22 18:12	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		10		06/23/22 18:12	17060-07-0	
Toluene-d8 (S)	97	%	70-130		10		06/23/22 18:12	2037-26-5	
Dibromofluoromethane (S)	94	%	70-130		10		06/23/22 18:12	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30497032

Sample: CO93-MWS **Lab ID: 30497032003** Collected: 06/09/22 14:20 Received: 06/09/22 21:50 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	173000	ug/L	1000	338	1000		06/24/22 22:51	71-43-2	H1
Ethylbenzene	1250	ug/L	10.0	4.0	10		06/23/22 19:04	100-41-4	
Naphthalene	1870	ug/L	40.0	21.3	10		06/23/22 19:04	91-20-3	
Toluene	54100	ug/L	1000	317	1000		06/24/22 22:51	108-88-3	H1
Xylene (Total)	14200	ug/L	300	135	100		06/23/22 19:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		10		06/23/22 19:04	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		10		06/23/22 19:04	17060-07-0	
Toluene-d8 (S)	97	%	70-130		10		06/23/22 19:04	2037-26-5	
Dibromofluoromethane (S)	91	%	70-130		10		06/23/22 19:04	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: COA 20010210

Pace Project No.: 30497032

Sample: CO191-MWS **Lab ID: 30497032004** Collected: 06/09/22 15:15 Received: 06/09/22 21:50 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8260B MSV									
Analytical Method: EPA 8260B									
Pace Analytical Services - Greensburg									
Benzene	104000	ug/L	1000	338	1000		06/24/22 23:16	71-43-2	H1
Ethylbenzene	235	ug/L	10.0	4.0	10		06/23/22 19:55	100-41-4	
Naphthalene	285	ug/L	40.0	21.3	10		06/23/22 19:55	91-20-3	
Toluene	12400	ug/L	100	31.7	100		06/23/22 20:21	108-88-3	
Xylene (Total)	2480	ug/L	30.0	13.5	10		06/23/22 19:55	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		10		06/23/22 19:55	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		10		06/23/22 19:55	17060-07-0	
Toluene-d8 (S)	96	%	70-130		10		06/23/22 19:55	2037-26-5	
Dibromofluoromethane (S)	93	%	70-130		10		06/23/22 19:55	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: COA 20010210
Pace Project No.: 30497032

QC Batch: 513987 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30497032001, 30497032002, 30497032003, 30497032004

METHOD BLANK: 2491156 Matrix: Water
Associated Lab Samples: 30497032001, 30497032002, 30497032003, 30497032004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	1.0 U	1.0	0.34	06/23/22 15:37	
Ethylbenzene	ug/L	1.0 U	1.0	0.40	06/23/22 15:37	
Naphthalene	ug/L	4.0 U	4.0	2.1	06/23/22 15:37	
Toluene	ug/L	1.0 U	1.0	0.32	06/23/22 15:37	
Xylene (Total)	ug/L	3.0 U	3.0	1.4	06/23/22 15:37	
1,2-Dichloroethane-d4 (S)	%	110	70-130		06/23/22 15:37	
4-Bromofluorobenzene (S)	%	111	70-130		06/23/22 15:37	
Dibromofluoromethane (S)	%	104	70-130		06/23/22 15:37	
Toluene-d8 (S)	%	96	70-130		06/23/22 15:37	

LABORATORY CONTROL SAMPLE: 2491157

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	22.2	111	70-130	
Ethylbenzene	ug/L	20	22.5	113	70-130	
Naphthalene	ug/L	20	16.2	81	55-160	
Toluene	ug/L	20	21.7	109	70-130	
Xylene (Total)	ug/L	60	64.4	107	70-130	
1,2-Dichloroethane-d4 (S)	%			105	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Dibromofluoromethane (S)	%			102	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2491158 2491159

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		30497549002 Result	Spike Conc.	Spike Conc.	Result						
Benzene	ug/L	4.4	20	20	27.1	33.8	114	147	50-149	22	30
Ethylbenzene	ug/L	1.3	20	20	22.6	29.7	106	142	63-135	27	30 MH
Naphthalene	ug/L	4.0 U	20	20	15.4	19.6	75	96	30-157	24	30
Toluene	ug/L	1.9	20	20	23.4	30.9	108	145	59-139	28	30 MH
Xylene (Total)	ug/L	4.7	60	60	66.9	89.0	104	141	63-135	28	30
1,2-Dichloroethane-d4 (S)	%						109	104	70-130		
4-Bromofluorobenzene (S)	%						101	99	70-130		
Dibromofluoromethane (S)	%						102	102	70-130		
Toluene-d8 (S)	%						98	99	70-130		

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: COA 20010210

Pace Project No.: 30497032

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 2491158

[1] The pH of the VOA vial used for analysis was 4.

Sample: 2491159

[1] The pH of the VOA vial used for analysis was 4.

ANALYTE QUALIFIERS

H1 Analysis conducted outside the EPA method holding time.

MH Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: COA 20010210

Pace Project No.: 30497032

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30497032001	Trip Blank WT1	EPA 8260B	513987		
30497032002	CO190-MWS	EPA 8260B	513987		
30497032003	CO93-MWS	EPA 8260B	513987		
30497032004	CO191-MWS	EPA 8260B	513987		

REPORT OF LABORATORY ANALYSIS

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Client Name: Trade point Project # _____

Face Analytical

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking #: _____
 LIMS Login: [Signature]
 Label: [Signature]

Custody Seal on Cooler/Box Present: yes no
 Seals intact: yes no

Thermometer Used: He
 Type of Ice: Wet Blue None
 Cooler Temperature: 3.0 °C
 Observed Temp: 10.0 °C
 Correction Factor: 7.0 °C
 Final Temp: 3.0 °C
 Temp should be above freezing to 6°C

Comments: _____
 pH paper Lot# 104411
 Date and initials of person examining contents: [Signature] 6-13-22

1	Chain of Custody Present	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	Chain of Custody Filled Out	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	Chain of Custody Relinquished	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	Sampler Name & Signature on COC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	Sample Labels match COC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-Includes date/time/ID Matrix: <u>mt</u>				
6	Samples Arrived within Hold Time	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7	Short Hold Time Analysis (<72hr remaining)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8	Rush Turn Around Time Requested	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9	Sufficient Volume	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10	Correct Containers Used	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
11	-Face Containers Used	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12	Containers Intact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
13	Orthophosphate field filtered	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
14	Hex Cr Aqueous sample field filtered	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
15	Organic Samples checked for dechlorination	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
16	Filtered volume received for Dissolved tests	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
17	All containers have been checked for preservation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
18	exceptions: <u>VOA</u> , coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
19	All containers meet method preservation requirements	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
20	Lot # of added preservative	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Headspace in VOA Vials (>6mm):	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Trip Blank Present:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Rad Samples Screened < 0.5 mrem/hr	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Client Notification/ Resolution: _____

Person Contacted: _____

Date/Time: _____

Contacted By: _____

Comments/ Resolution: _____

A check in this box indicates that additional information has been stored in ereports.

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)
 *PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS, The review is in the Status section of the Workorder Edit Screen.

MO#: 30497032
 PM: SCR Due Date: 06/17/22
 CLIENT: TRADEPOINT



ANALYTICAL REPORT

Lab Number:	L2233239
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA-GW
Project Number:	20010210
Report Date:	07/07/22

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

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

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



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2233239-01	TRIP BLANK	WATER	Not Specified	06/22/22 00:00	06/22/22
L2233239-02	CO180-MWI	WATER	Not Specified	06/22/22 12:34	06/22/22
L2233239-03	CO180-MWS	WATER	Not Specified	06/22/22 13:05	06/22/22
L2233239-04	CO181-MWI	WATER	Not Specified	06/22/22 14:15	06/22/22
L2233239-05	CO181-MWS	WATER	Not Specified	06/22/22 14:45	06/22/22
L2233239-06	CO28-PZM010	WATER	Not Specified	06/22/22 15:30	06/22/22

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

Case Narrative

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

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

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

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

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

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

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

Case Narrative (continued)

Report Submission

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

Sample Receipt

L2233239-04: The sample identified as "CO181-MWI" on the chain of custody was identified as "HI181-MWI" on the container label. At the client's request, the sample is reported as "CO181-MWI".

L2233239-01: Headspace was noted in the sample containers submitted for PA Volatile Organics - EPA 8260C. The analysis was performed at the client's request.

Volatile Organics

L2233239-01: Headspace was noted in the sample container utilized for analysis.

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

Authorized Signature:

 Caitlin Walukevich

Title: Technical Director/Representative

Date: 07/07/22

ORGANICS

VOLATILES

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

SAMPLE RESULTS

Lab ID: L2233239-01
 Client ID: TRIP BLANK
 Sample Location: Not Specified

Date Collected: 06/22/22 00:00
 Date Received: 06/22/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/02/22 17:43
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	110		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

SAMPLE RESULTS

Lab ID: L2233239-02 D
 Client ID: CO180-MWI
 Sample Location: Not Specified

Date Collected: 06/22/22 12:34
 Date Received: 06/22/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/05/22 17:33
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	31000		ug/l	120	40.	250
Toluene	7100		ug/l	190	51.	250
Ethylbenzene	140		ug/l	120	42.	250
p/m-Xylene	1600		ug/l	250	83.	250
o-Xylene	540		ug/l	250	98.	250
Xylenes, Total	2100		ug/l	250	83.	250
Naphthalene	1200		ug/l	250	54.	250

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

SAMPLE RESULTS

Lab ID: L2233239-03 D
 Client ID: CO180-MWS
 Sample Location: Not Specified

Date Collected: 06/22/22 13:05
 Date Received: 06/22/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/02/22 18:53
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	24000		ug/l	120	40.	250
Toluene	6500		ug/l	190	51.	250
Ethylbenzene	110	J	ug/l	120	42.	250
p/m-Xylene	1300		ug/l	250	83.	250
o-Xylene	430		ug/l	250	98.	250
Xylenes, Total	1700		ug/l	250	83.	250
Naphthalene	930		ug/l	250	54.	250

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	97		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

SAMPLE RESULTS

Lab ID: L2233239-04 D
 Client ID: CO181-MWI
 Sample Location: Not Specified

Date Collected: 06/22/22 14:15
 Date Received: 06/22/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/02/22 19:16
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	39000		ug/l	250	80.	500
Toluene	11000		ug/l	380	100	500
Ethylbenzene	210	J	ug/l	250	84.	500
p/m-Xylene	2200		ug/l	500	170	500
o-Xylene	710		ug/l	500	200	500
Xylenes, Total	2900		ug/l	500	170	500
Naphthalene	2000		ug/l	500	110	500

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	98		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

SAMPLE RESULTS

Lab ID: L2233239-05 D
 Client ID: CO181-MWS
 Sample Location: Not Specified

Date Collected: 06/22/22 14:45
 Date Received: 06/22/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/02/22 19:39
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	29000		ug/l	120	40.	250
Toluene	6900		ug/l	190	51.	250
Ethylbenzene	130		ug/l	120	42.	250
p/m-Xylene	1500		ug/l	250	83.	250
o-Xylene	480		ug/l	250	98.	250
Xylenes, Total	2000		ug/l	250	83.	250
Naphthalene	1700		ug/l	250	54.	250

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	97		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

SAMPLE RESULTS

Lab ID: L2233239-06
 Client ID: CO28-PZM010
 Sample Location: Not Specified

Date Collected: 06/22/22 15:30
 Date Received: 06/22/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/02/22 18:06
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	15		ug/l	0.50	0.16	1
Toluene	0.58	J	ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	0.36	J	ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	105		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/02/22 11:51
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,03-06 Batch: WG1658829-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	0.22	J	ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	103		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/05/22 09:11
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1659222-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	107		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03-06 Batch: WG1658829-3 WG1658829-4								
Benzene	99		100		70-130	1		20
Toluene	100		100		70-130	0		20
Ethylbenzene	110		110		70-130	0		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	105		105		70-130	0		20
Naphthalene	91		94		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		107		70-130
Toluene-d8	105		106		70-130
4-Bromofluorobenzene	107		110		70-130
Dibromofluoromethane	100		101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1659222-3 WG1659222-4								
Benzene	93		96		70-130	3		20
Toluene	93		94		70-130	1		20
Ethylbenzene	93		92		70-130	1		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
Naphthalene	81		81		70-130	0		20

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
1,2-Dichloroethane-d4	108		108		70-130
Toluene-d8	98		100		70-130
4-Bromofluorobenzene	96		95		70-130
Dibromofluoromethane	104		106		70-130

Project Name: COA-GW**Lab Number:** L2233239**Project Number:** 20010210**Report Date:** 07/07/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2233239-01A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-01B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-02A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-02B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-02C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-03A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-03B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-03C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-04A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-04B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-04C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-05A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-05B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-05C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-06A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-06B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2233239-06C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233239
Report Date: 07/07/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: **COA - GW**

Project Location:

Project #: **20010210**

Project Manager: **Bob Tworkowski**

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: _____ Time: _____

Date Rec'd in Lab: **6/23/22**

ALPHA Job #: **L2233239**

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: **TPA**

Address: **1600 SPARROWS Pt. Blvd.**

Phone:

Fax:

Email: **SKABIS@armgroup.net**

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Please have Couriers Call Me at
443-995-5125 for pick up Arrivals

Regulatory Requirements/Report Limits

State /Fed Program Criteria

ANALYSIS	SAMPLE HANDLING		TOTAL # BOTTLES
	Filtration	Preservation	
BTex & Map to be done 8/20	<input type="checkbox"/> Done	<input type="checkbox"/> Lab to do	2
	<input type="checkbox"/> Not needed	<input type="checkbox"/> Lab to do	
	<input type="checkbox"/> Lab to do	<input type="checkbox"/> Lab to do	
	<input type="checkbox"/> Lab to do	<input type="checkbox"/> Lab to do	
	<input type="checkbox"/> Lab to do	<input type="checkbox"/> Lab to do	
	<input type="checkbox"/> Lab to do	<input type="checkbox"/> Lab to do	
	Sample Specific Comments		

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		

33239-01	TRIP BLANK	6/22/22	—	GW	TJP	X
-02	CO 180-MWI	↓	1234	GW	TJP	X
-03	CO 180-MWS		1305	GW	TJP	X
-04	CO 181-MWI		1415	GW	TJP	X
-05	CO 181-MWS		1445	GW	TJP	X
-06	CO 28-PZM010		1530	GW	TJP	X

Container Type **V**

Preservative **B**

Relinquished By:

Date/Time

Received By:

Date/Time

Relinquished By: **ARM** Date/Time: **6/22/22 1605**
 Received By: **ANT** Date/Time: **6/22/22 1755**
 Relinquished By: **P. Macomber** Date/Time: **6/22/22 2100**
 Received By: **L. Macomber** Date/Time: **6/22/22 2020**

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



ANALYTICAL REPORT

Lab Number:	L2233570
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA-GW
Project Number:	20010210
Report Date:	08/29/22

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

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

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



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2233570-01	CO28-PZM048	WATER	SPT-COA	06/23/22 11:45	06/23/22
L2233570-02	CO26-PMZ032	WATER	SPT-COA	06/23/22 13:15	06/23/22
L2233570-03	CO57-PZP002	WATER	SPT-COA	06/23/22 15:20	06/23/22
L2233570-04	CO23-PZM008	WATER	SPT-COA	06/23/22 15:05	06/23/22
L2233570-05	TB-WT	WATER	SPT-COA	06/23/22 00:00	06/23/22

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

Case Narrative

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

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

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

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

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

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

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

Case Narrative (continued)

Report Revision

August 29, 2022: The Client IDs was amended on L2233570-02.

Report Submission

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

Sample Receipt

L2233570-05: Headspace was noted in the sample containers submitted for PA Volatile Organics - EPA 8260C. The analysis was performed at the client's request.

Volatile Organics

L2233570-05: Headspace was noted in the sample container utilized for analysis.

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

Authorized Signature:  Tiffani Morrissey

Title: Technical Director/Representative

Date: 08/29/22

ORGANICS

VOLATILES

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

SAMPLE RESULTS

Lab ID: L2233570-01 D
 Client ID: CO28-PZM048
 Sample Location: SPT-COA

Date Collected: 06/23/22 11:45
 Date Received: 06/23/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/03/22 16:20
 Analyst: MV

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

Volatile Organics by GC/MS - Westborough Lab						
Benzene	150000		ug/l	500	160	1000
Toluene	3800		ug/l	750	200	1000
Ethylbenzene	450	J	ug/l	500	170	1000
p/m-Xylene	5600		ug/l	1000	330	1000
o-Xylene	1900		ug/l	1000	390	1000
Xylenes, Total	7500		ug/l	1000	330	1000
Naphthalene	4100		ug/l	1000	220	1000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	80		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	99		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

SAMPLE RESULTS

Lab ID: L2233570-02
 Client ID: CO26-PMZ032
 Sample Location: SPT-COA

Date Collected: 06/23/22 13:15
 Date Received: 06/23/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/03/22 15:03
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	0.31	J	ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	0.50	J	ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	105		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

SAMPLE RESULTS

Lab ID: L2233570-03
 Client ID: CO57-PZP002
 Sample Location: SPT-COA

Date Collected: 06/23/22 15:20
 Date Received: 06/23/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/03/22 15:22
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	0.25	J	ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	0.30	J	ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	113		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

SAMPLE RESULTS

Lab ID: L2233570-04 D2
 Client ID: CO23-PZM008
 Sample Location: SPT-COA

Date Collected: 06/23/22 15:05
 Date Received: 06/23/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/06/22 05:40
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Naphthalene	3100		ug/l	50	11.	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	104		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

SAMPLE RESULTS

Lab ID: L2233570-04 D
 Client ID: CO23-PZM008
 Sample Location: SPT-COA

Date Collected: 06/23/22 15:05
 Date Received: 06/23/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/03/22 16:01
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	510		ug/l	2.5	0.80	5
Toluene	260		ug/l	3.8	1.0	5
Ethylbenzene	27		ug/l	2.5	0.84	5
p/m-Xylene	360		ug/l	5.0	1.7	5
o-Xylene	150		ug/l	5.0	2.0	5
Xylenes, Total	510		ug/l	5.0	1.7	5
Naphthalene	2500	E	ug/l	5.0	1.1	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	101		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

SAMPLE RESULTS

Lab ID: L2233570-05
 Client ID: TB-WT
 Sample Location: SPT-COA

Date Collected: 06/23/22 00:00
 Date Received: 06/23/22
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/03/22 15:42
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	104		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/03/22 09:54
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1658845-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	104		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/05/22 21:36
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG1659297-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	0.23	J	ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW

Project Number: 20010210

Lab Number: L2233570

Report Date: 08/29/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1658845-3 WG1658845-4								
Benzene	96		95		70-130	1		20
Toluene	90		91		70-130	1		20
Ethylbenzene	96		97		70-130	1		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	100		100		70-130	0		20
Naphthalene	73		76		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	84		85		70-130
Toluene-d8	90		93		70-130
4-Bromofluorobenzene	87		88		70-130
Dibromofluoromethane	102		104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW

Project Number: 20010210

Lab Number: L2233570

Report Date: 08/29/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG1659297-3 WG1659297-4								
Benzene	100		110		70-130	10		20
Toluene	110		110		70-130	0		20
Ethylbenzene	110		110		70-130	0		20
p/m-Xylene	105		110		70-130	5		20
o-Xylene	105		110		70-130	5		20
Naphthalene	85		86		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		102		70-130
Toluene-d8	107		106		70-130
4-Bromofluorobenzene	111		115		70-130
Dibromofluoromethane	100		100		70-130

Project Name: COA-GW**Lab Number:** L2233570**Project Number:** 20010210**Report Date:** 08/29/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2233570-01A	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)
L2233570-01B	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)
L2233570-01C	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)
L2233570-02A	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)
L2233570-02B	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)
L2233570-02C	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)
L2233570-03A	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)
L2233570-03B	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)
L2233570-03C	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)
L2233570-04A	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)
L2233570-04B	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)
L2233570-04C	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)
L2233570-05A	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)
L2233570-05B	Vial HCl preserved	A	NA		3.7	Y	Absent		PA-8260(14)

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

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Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2233570
Report Date: 08/29/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



ANALYTICAL REPORT

Lab Number:	L2234693
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA-GW
Project Number:	20010210
Report Date:	07/14/22

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

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



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2234693-01	TB-WT-1	WATER	SPT-COA	06/29/22 00:00	06/29/22
L2234693-02	CO27-PZM046	WATER	SPT-COA	06/29/22 10:32	06/29/22
L2234693-03	CO27-PZM012	WATER	SPT-COA	06/29/22 11:16	06/29/22
L2234693-04	GD01-MWI	WATER	SPT-COA	06/29/22 13:47	06/29/22
L2234693-05	GD02-MWI	WATER	SPT-COA	06/29/22 15:15	06/29/22

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

Case Narrative

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

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

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

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

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

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

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

Case Narrative (continued)

Report Submission

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

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

Authorized Signature:

 Caitlin Walukevich

Title: Technical Director/Representative

Date: 07/14/22

ORGANICS

VOLATILES

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

SAMPLE RESULTS

Lab ID: L2234693-01
 Client ID: TB-WT-1
 Sample Location: SPT-COA

Date Collected: 06/29/22 00:00
 Date Received: 06/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/11/22 18:33
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	98		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

SAMPLE RESULTS

Lab ID: L2234693-02 D
 Client ID: CO27-PZM046
 Sample Location: SPT-COA

Date Collected: 06/29/22 10:32
 Date Received: 06/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/11/22 23:57
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	17000		ug/l	120	40.	250
Toluene	6800		ug/l	190	51.	250
Ethylbenzene	240		ug/l	120	42.	250
p/m-Xylene	1300		ug/l	250	83.	250
o-Xylene	520		ug/l	250	98.	250
Xylenes, Total	1800		ug/l	250	83.	250
Naphthalene	950		ug/l	250	54.	250

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	91		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

SAMPLE RESULTS

Lab ID: L2234693-03 D
 Client ID: CO27-PZM012
 Sample Location: SPT-COA

Date Collected: 06/29/22 11:16
 Date Received: 06/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/12/22 00:20
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	13000		ug/l	50	16.	100
Toluene	5200		ug/l	75	20.	100
Ethylbenzene	180		ug/l	50	17.	100
p/m-Xylene	1000		ug/l	100	33.	100
o-Xylene	420		ug/l	100	39.	100
Xylenes, Total	1400		ug/l	100	33.	100
Naphthalene	870		ug/l	100	22.	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	89		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

SAMPLE RESULTS

Lab ID: L2234693-04
 Client ID: GD01-MWI
 Sample Location: SPT-COA

Date Collected: 06/29/22 13:47
 Date Received: 06/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/11/22 21:38
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	19		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	99		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

SAMPLE RESULTS

Lab ID: L2234693-05 D
 Client ID: GD02-MWI
 Sample Location: SPT-COA

Date Collected: 06/29/22 15:15
 Date Received: 06/29/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/12/22 00:43
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	87000		ug/l	500	160	1000
Toluene	ND		ug/l	750	200	1000
Ethylbenzene	460	J	ug/l	500	170	1000
p/m-Xylene	ND		ug/l	1000	330	1000
o-Xylene	ND		ug/l	1000	390	1000
Xylenes, Total	ND		ug/l	1000	330	1000
Naphthalene	1200		ug/l	1000	220	1000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	91		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/11/22 17:00
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1661762-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1661762-3 WG1661762-4								
Benzene	90		92		70-130	2		20
Toluene	96		99		70-130	3		20
Ethylbenzene	97		100		70-130	3		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		100		70-130	5		20
Naphthalene	92		94		70-130	2		20

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
1,2-Dichloroethane-d4	95		96		70-130
Toluene-d8	108		108		70-130
4-Bromofluorobenzene	120		119		70-130
Dibromofluoromethane	92		92		70-130

Project Name: COA-GW**Lab Number:** L2234693**Project Number:** 20010210**Report Date:** 07/14/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2234693-01A	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)
L2234693-01B	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)
L2234693-02A	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)
L2234693-02B	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)
L2234693-02C	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)
L2234693-03A	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)
L2234693-03B	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)
L2234693-03C	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)
L2234693-04A	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)
L2234693-04B	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)
L2234693-04C	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)
L2234693-05A	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)
L2234693-05B	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)
L2234693-05C	Vial HCl preserved	A	NA		3.1	Y	Absent		PA-8260(14)

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2234693
Report Date: 07/14/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 6/29/22

ALPHA Job #: L2234693

Project Information

Project Name: COA-GW
Project Location: SPT - COA
Project #: 20010210
Project Manager: Bob Tworkowski
ALPHA Quote #:

Report Information - Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: TPA
Address:
Phone: 443 995 5125
Fax:
Email: SKabis@Armgroup.net
 These samples have been previously analyzed by Alpha

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)
Date Due: Time:

Regulatory Requirements/Report Limits

State /Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS BTEX & Naphthalene 8260

SAMPLE HANDLING

Filtration _____

Done
 Not needed
 Lab to do
 Lab to do

Preservation _____

Lab to do

(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	
		Date	Time			
34693 01	TB-WT-1	6/29/22	—	GW	TJP	X
02	CO27-P2M04G	↓	1032	GW	TJP	X
03	CO27-P2M012	↓	1116	GW	TJP	X
04	GD01-MWI	↓	1347	GW	TJP	X
05	GD02-MWI	↓	1515	GW	TJP	X

6/30/22 0130
GJ AAL
6/30/22
0130

Container Type V
Preservative B

Relinquished By: [Signature] ARMY Date/Time: 6/29/22 1630
Received By: [Signature] Date/Time: 6/29/22 1840

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



ANALYTICAL REPORT

Lab Number:	L2235124
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA-GW-EXTRACTION WELLS
Project Number:	20010210
Report Date:	07/15/22

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

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

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



Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2235124-01	TB-WT	WATER	Not Specified	06/30/22 00:00	06/30/22
L2235124-02	CO43-PZM048	WATER	Not Specified	06/30/22 11:45	06/30/22
L2235124-03	CO44-PZM048	WATER	Not Specified	06/30/22 12:30	06/30/22
L2235124-04	CO45-PZM047	WATER	Not Specified	06/30/22 13:06	06/30/22
L2235124-05	CO46-PZM047	WATER	Not Specified	06/30/22 14:00	06/30/22
L2235124-06	CO47-PZM046	WATER	Not Specified	06/30/22 14:33	06/30/22
L2235124-07	CO48-PZM044	WATER	Not Specified	06/30/22 15:05	06/30/22

Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

Case Narrative

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

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

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

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

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

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

Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

Case Narrative (continued)

Report Submission

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

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

Authorized Signature: *Tiffani Morrissey* - Tiffani Morrissey

Title: Technical Director/Representative

Date: 07/15/22

ORGANICS

VOLATILES

Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2235124-01
 Client ID: TB-WT
 Sample Location: Not Specified

Date Collected: 06/30/22 00:00
 Date Received: 06/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/12/22 21:27
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	103		70-130

Project Name: COA-GW-EXTRACTION WELLS**Lab Number:** L2235124**Project Number:** 20010210**Report Date:** 07/15/22**SAMPLE RESULTS**

Lab ID: L2235124-02 D

Date Collected: 06/30/22 11:45

Client ID: CO43-PZM048

Date Received: 06/30/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 07/13/22 01:19

Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatiles Organics by GC/MS - Westborough Lab						
Benzene	4200		ug/l	20	6.4	40
Toluene	ND		ug/l	30	8.1	40
Ethylbenzene	8.0	J	ug/l	20	6.7	40
p/m-Xylene	25	J	ug/l	40	13.	40
o-Xylene	ND		ug/l	40	16.	40
Xylenes, Total	25	J	ug/l	40	13.	40
Naphthalene	39	J	ug/l	40	8.6	40

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	92		70-130

Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2235124-03 D
 Client ID: CO44-PZM048
 Sample Location: Not Specified

Date Collected: 06/30/22 12:30
 Date Received: 06/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/14/22 00:13
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatiles Organics by GC/MS - Westborough Lab						
Benzene	300		ug/l	1.0	0.32	2
Toluene	2.3		ug/l	1.5	0.41	2
Ethylbenzene	0.97	J	ug/l	1.0	0.33	2
p/m-Xylene	2.5		ug/l	2.0	0.66	2
o-Xylene	1.8	J	ug/l	2.0	0.78	2
Xylenes, Total	4.3	J	ug/l	2.0	0.66	2
Naphthalene	7.2		ug/l	2.0	0.43	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	94		70-130

Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2235124-04
 Client ID: CO45-PZM047
 Sample Location: Not Specified

Date Collected: 06/30/22 13:06
 Date Received: 06/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/12/22 22:36
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	85		ug/l	0.50	0.16	1
Toluene	0.24	J	ug/l	0.75	0.20	1
Ethylbenzene	0.24	J	ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	1.0		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	99		70-130

Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2235124-05 D
 Client ID: CO46-PZM047
 Sample Location: Not Specified

Date Collected: 06/30/22 14:00
 Date Received: 06/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/13/22 02:05
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	24000		ug/l	100	32.	200
Toluene	6500		ug/l	150	41.	200
Ethylbenzene	280		ug/l	100	33.	200
p/m-Xylene	1400		ug/l	200	66.	200
o-Xylene	530		ug/l	200	78.	200
Xylenes, Total	1900		ug/l	200	66.	200
Naphthalene	820		ug/l	200	43.	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	123		70-130
Dibromofluoromethane	91		70-130

Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2235124-06 D
 Client ID: CO47-PZM046
 Sample Location: Not Specified

Date Collected: 06/30/22 14:33
 Date Received: 06/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/13/22 02:29
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	22000		ug/l	100	32.	200
Toluene	6600		ug/l	150	41.	200
Ethylbenzene	290		ug/l	100	33.	200
p/m-Xylene	1600		ug/l	200	66.	200
o-Xylene	560		ug/l	200	78.	200
Xylenes, Total	2200		ug/l	200	66.	200
Naphthalene	990		ug/l	200	43.	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	120		70-130
Dibromofluoromethane	91		70-130

Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

SAMPLE RESULTS

Lab ID: L2235124-07 D
 Client ID: CO48-PZM044
 Sample Location: Not Specified

Date Collected: 06/30/22 15:05
 Date Received: 06/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/13/22 02:52
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	20000		ug/l	100	32.	200
Toluene	10000		ug/l	150	41.	200
Ethylbenzene	340		ug/l	100	33.	200
p/m-Xylene	1900		ug/l	200	66.	200
o-Xylene	640		ug/l	200	78.	200
Xylenes, Total	2500		ug/l	200	66.	200
Naphthalene	1200		ug/l	200	43.	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	121		70-130
Dibromofluoromethane	90		70-130

Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/12/22 21:03
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02,04-07 Batch: WG1663016-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	100		70-130

Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 07/13/22 18:49
 Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG1663347-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis Batch Quality Control

Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,04-07 Batch: WG1663016-3 WG1663016-4								
Benzene	100		100		70-130	0		20
Toluene	100		110		70-130	10		20
Ethylbenzene	100		110		70-130	10		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	100		105		70-130	5		20
Naphthalene	95		99		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	107		104		70-130
Toluene-d8	107		109		70-130
4-Bromofluorobenzene	117		112		70-130
Dibromofluoromethane	98		94		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW-EXTRACTION WELLS

Project Number: 20010210

Lab Number: L2235124

Report Date: 07/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG1663347-3 WG1663347-4								
Benzene	99		96		70-130	3		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		95		70-130	5		20
Naphthalene	91		92		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		103		70-130
Toluene-d8	109		108		70-130
4-Bromofluorobenzene	116		117		70-130
Dibromofluoromethane	93		93		70-130

Project Name: COA-GW-EXTRACTION WELLS**Lab Number:** L2235124**Project Number:** 20010210**Report Date:** 07/15/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2235124-01A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-01B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-02A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-02B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-02C	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-03A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-03B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-03C	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-04A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-04B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-04C	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-05A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-05B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-05C	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-06A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-06B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-06C	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-07A	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-07B	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)
L2235124-07C	Vial HCl preserved	A	NA		4.3	Y	Absent		PA-8260(14)

Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW-EXTRACTION WELLS
Project Number: 20010210

Lab Number: L2235124
Report Date: 07/15/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



ANALYTICAL REPORT

Lab Number:	L2235652
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA-GW
Project Number:	20010210
Report Date:	07/19/22

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

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



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2235652-01	CO72-PZM005	WATER	Not Specified	07/05/22 09:10	07/05/22
L2235652-02	CO71-PZM006	WATER	Not Specified	07/05/22 09:45	07/05/22
L2235652-03	CO70-PZM005	WATER	Not Specified	07/05/22 10:25	07/05/22
L2235652-04	CO69-PZM005	WATER	Not Specified	07/05/22 11:15	07/05/22
L2235652-05	CO68-PZM005	WATER	Not Specified	07/05/22 11:50	07/05/22
L2235652-06	CO67-PZM006	WATER	Not Specified	07/05/22 13:20	07/05/22
L2235652-07	CO66-PZM005	WATER	Not Specified	07/05/22 14:00	07/05/22
L2235652-08	TB-WT-1	WATER	Not Specified	07/05/22 00:00	07/05/22

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

Case Narrative

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

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

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

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

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

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

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

Case Narrative (continued)

Report Submission

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

Volatile Organics

L2235652-03D: The sample was received in the proper acid-preserved containers; however, upon analysis, the pH was determined to be greater than 2, and thus the method required holding time was exceeded.

L2235652-03D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

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

Authorized Signature:

 Cristin Walker

Title: Technical Director/Representative

Date: 07/19/22

ORGANICS

VOLATILES

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235652-01 D
 Client ID: CO72-PZM005
 Sample Location: Not Specified

Date Collected: 07/05/22 09:10
 Date Received: 07/05/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 17:48
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	280		ug/l	10	3.2	20
Toluene	160		ug/l	15	4.1	20
Ethylbenzene	10		ug/l	10	3.3	20
p/m-Xylene	160		ug/l	20	6.6	20
o-Xylene	59		ug/l	20	7.8	20
Xylenes, Total	220		ug/l	20	6.6	20
Naphthalene	2500		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	97		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235652-02
 Client ID: CO71-PZM006
 Sample Location: Not Specified

Date Collected: 07/05/22 09:45
 Date Received: 07/05/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 03:22
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	57		ug/l	0.50	0.16	1
Toluene	18		ug/l	0.75	0.20	1
Ethylbenzene	1.9		ug/l	0.50	0.17	1
p/m-Xylene	26		ug/l	1.0	0.33	1
o-Xylene	13		ug/l	1.0	0.39	1
Xylenes, Total	39		ug/l	1.0	0.33	1
Naphthalene	220	E	ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	112		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235652-02 D
 Client ID: CO71-PZM006
 Sample Location: Not Specified

Date Collected: 07/05/22 09:45
 Date Received: 07/05/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 17:25
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Naphthalene	210		ug/l	5.0	1.1	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	97		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235652-03 D
 Client ID: CO70-PZM005
 Sample Location: Not Specified

Date Collected: 07/05/22 10:25
 Date Received: 07/05/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 17:02
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	120		ug/l	5.0	1.6	10
Toluene	55		ug/l	7.5	2.0	10
Ethylbenzene	4.0	J	ug/l	5.0	1.7	10
p/m-Xylene	53		ug/l	10	3.3	10
o-Xylene	21		ug/l	10	3.9	10
Xylenes, Total	74		ug/l	10	3.3	10
Naphthalene	670		ug/l	10	2.2	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	98		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235652-04 D
 Client ID: CO69-PZM005
 Sample Location: Not Specified

Date Collected: 07/05/22 11:15
 Date Received: 07/05/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 04:39
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	59		ug/l	2.5	0.80	5
Toluene	31		ug/l	3.8	1.0	5
Ethylbenzene	2.9		ug/l	2.5	0.84	5
p/m-Xylene	44		ug/l	5.0	1.7	5
o-Xylene	19		ug/l	5.0	2.0	5
Xylenes, Total	63		ug/l	5.0	1.7	5
Naphthalene	580		ug/l	5.0	1.1	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	121		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235652-05 D
 Client ID: CO68-PZM005
 Sample Location: Not Specified

Date Collected: 07/05/22 11:50
 Date Received: 07/05/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 05:04
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	220		ug/l	10	3.2	20
Toluene	120		ug/l	15	4.1	20
Ethylbenzene	8.5	J	ug/l	10	3.3	20
p/m-Xylene	140		ug/l	20	6.6	20
o-Xylene	50		ug/l	20	7.8	20
Xylenes, Total	190		ug/l	20	6.6	20
Naphthalene	2400		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	121		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235652-06 D
 Client ID: CO67-PZM006
 Sample Location: Not Specified

Date Collected: 07/05/22 13:20
 Date Received: 07/05/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 05:29
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	290		ug/l	10	3.2	20
Toluene	170		ug/l	15	4.1	20
Ethylbenzene	12		ug/l	10	3.3	20
p/m-Xylene	190		ug/l	20	6.6	20
o-Xylene	69		ug/l	20	7.8	20
Xylenes, Total	260		ug/l	20	6.6	20
Naphthalene	2800		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	119		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235652-07 D
 Client ID: CO66-PZM005
 Sample Location: Not Specified

Date Collected: 07/05/22 14:00
 Date Received: 07/05/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 05:55
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	300		ug/l	10	3.2	20
Toluene	180		ug/l	15	4.1	20
Ethylbenzene	12		ug/l	10	3.3	20
p/m-Xylene	190		ug/l	20	6.6	20
o-Xylene	71		ug/l	20	7.8	20
Xylenes, Total	260		ug/l	20	6.6	20
Naphthalene	2800		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	117		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

SAMPLE RESULTS

Lab ID: L2235652-08
 Client ID: TB-WT-1
 Sample Location: Not Specified

Date Collected: 07/05/22 00:00
 Date Received: 07/05/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 02:56
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatiles Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	0.24	J	ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	123		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/14/22 21:27
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02,04-08 Batch: WG1663377-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	120		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:44
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1664179-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	0.25	J	ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW

Project Number: 20010210

Lab Number: L2235652

Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02,04-08 Batch: WG1663377-3 WG1663377-4								
Benzene	98		100		70-130	2		20
Toluene	93		94		70-130	1		20
Ethylbenzene	95		95		70-130	0		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	95		95		70-130	0		20
Naphthalene	100		93		70-130	7		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		101		70-130
Toluene-d8	97		100		70-130
4-Bromofluorobenzene	95		95		70-130
Dibromofluoromethane	104		105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1664179-3 WG1664179-4								
Benzene	94		95		70-130	1		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Naphthalene	85		84		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		95		70-130
Toluene-d8	110		109		70-130
4-Bromofluorobenzene	121		123		70-130
Dibromofluoromethane	91		91		70-130

Project Name: COA-GW**Lab Number:** L2235652**Project Number:** 20010210**Report Date:** 07/19/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2235652-01A	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-01B	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-01C	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-02A	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-02B	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-02C	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-03A	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-03B	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-03C	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-04A	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-04B	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-04C	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-05A	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-05B	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-05C	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-06A	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-06B	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-06C	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-07A	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-07B	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-07C	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-08A	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)
L2235652-08B	Vial HCl preserved	A	NA		3.4	Y	Absent		PA-8260(14)

Project Name: COA-GW
Project Number: 20010210

Serial_No:07192211:03
Lab Number: L2235652
Report Date: 07/19/22

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
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Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2235652
Report Date: 07/19/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-888-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 7/5/22

ALPHA Job #: L2235652

Project Information

Project Name: COA GW.

Report Information - Data Deliverables

FAX
 EMAIL
 ADEX
 Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: TPA

Project Location:

Project #: 20010210

Project Manager:

ALPHA Quote #:

Regulatory Requirements/Report Limits

State /Fed Program Criteria

Phone:

Turn-Around Time

Fax:

Standard RUSH (only confirmed if pre-approved)

Email: SKabis@Armgraph.net

Date Due: Time:

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS
BTEx - Naphthalene 8260

SAMPLE HANDLING

Filtration _____

Done
 Not needed
 Lab to do
Preservation
 Lab to do
(Please specify below)

Sample Specific Comments

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	X	TOTAL # BOTTLES	
		Date	Time					
35652	1 C072-P2M005	7/5/22	0910	GW	TJP	X		3
	2 C071-P2M006		0945	GW	TJP	X		3
	3 C070-P2M005		1025	GW	TJP	X		3
	4 C069-P2M005		1115	GW	TJP	X		3
	5 G068-P2M005		1150	GW	TJP	X		3
	6 C067-P2M006		1320	GW	TJP	X		3
	7 C066-P2M005		1400	GW	TJP	X		3
	8 TB-Wt-1		-	X1	TJP	X		2

at 7/6/22 01:20

Container Type V
Preservative B

Relinquished By: Date/Time: 7/5/22 1500

Received By: Date/Time: 7/5/22 1500

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



ANALYTICAL REPORT

Lab Number:	L2236039
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA-GW
Project Number:	20010210
Report Date:	07/20/22

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

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



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2236039
Report Date: 07/20/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2236039-01	CO65-PZM005	WATER	CELL 5 EXTRACTION	07/06/22 09:15	07/07/22
L2236039-02	CO64-PZM006	WATER	CELL 5 EXTRACTION	07/06/22 14:35	07/07/22
L2236039-03	CO63-PZM007	WATER	CELL 5 EXTRACTION	07/06/22 14:56	07/07/22
L2236039-04	CO61-PZM007	WATER	CELL 5 EXTRACTION	07/06/22 16:05	07/07/22
L2236039-05	TB-WT-1	WATER	CELL 5 EXTRACTION	07/06/22 00:00	07/07/22

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2236039
Report Date: 07/20/22

Case Narrative

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

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

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

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

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

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

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2236039
Report Date: 07/20/22

Case Narrative (continued)

Report Submission

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

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

Authorized Signature:  Tiffani Morrissey

Title: Technical Director/Representative

Date: 07/20/22

ORGANICS

VOLATILES

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2236039
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2236039-01 D
 Client ID: CO65-PZM005
 Sample Location: CELL 5 EXTRACTION

Date Collected: 07/06/22 09:15
 Date Received: 07/07/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 17:44
 Analyst: PD

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

Volatile Organics by GC/MS - Westborough Lab						
Benzene	340		ug/l	12	4.0	25
Toluene	240		ug/l	19	5.1	25
Ethylbenzene	16		ug/l	12	4.2	25
p/m-Xylene	270		ug/l	25	8.3	25
o-Xylene	100		ug/l	25	9.8	25
Xylenes, Total	370		ug/l	25	8.3	25
Naphthalene	4200		ug/l	25	5.4	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	86		70-130
4-Bromofluorobenzene	83		70-130
Dibromofluoromethane	118		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2236039
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2236039-02 D
 Client ID: CO64-PZM006
 Sample Location: CELL 5 EXTRACTION

Date Collected: 07/06/22 14:35
 Date Received: 07/07/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 16:51
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	290		ug/l	10	3.2	20
Toluene	170		ug/l	15	4.1	20
Ethylbenzene	13		ug/l	10	3.3	20
p/m-Xylene	200		ug/l	20	6.6	20
o-Xylene	76		ug/l	20	7.8	20
Xylenes, Total	280		ug/l	20	6.6	20
Naphthalene	2700		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	86		70-130
4-Bromofluorobenzene	81		70-130
Dibromofluoromethane	120		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2236039
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2236039-03 D
 Client ID: CO63-PZM007
 Sample Location: CELL 5 EXTRACTION

Date Collected: 07/06/22 14:56
 Date Received: 07/07/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 17:18
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	300		ug/l	10	3.2	20
Toluene	180		ug/l	15	4.1	20
Ethylbenzene	15		ug/l	10	3.3	20
p/m-Xylene	220		ug/l	20	6.6	20
o-Xylene	86		ug/l	20	7.8	20
Xylenes, Total	310		ug/l	20	6.6	20
Naphthalene	3000		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	86		70-130
4-Bromofluorobenzene	83		70-130
Dibromofluoromethane	117		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2236039
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2236039-04 D
 Client ID: CO61-PZM007
 Sample Location: CELL 5 EXTRACTION

Date Collected: 07/06/22 16:05
 Date Received: 07/07/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 16:25
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	210		ug/l	10	3.2	20
Toluene	73		ug/l	15	4.1	20
Ethylbenzene	10		ug/l	10	3.3	20
p/m-Xylene	110		ug/l	20	6.6	20
o-Xylene	45		ug/l	20	7.8	20
Xylenes, Total	160		ug/l	20	6.6	20
Naphthalene	1800		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	85		70-130
4-Bromofluorobenzene	84		70-130
Dibromofluoromethane	119		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2236039
Report Date: 07/20/22

SAMPLE RESULTS

Lab ID: L2236039-05
 Client ID: TB-WT-1
 Sample Location: CELL 5 EXTRACTION

Date Collected: 07/06/22 00:00
 Date Received: 07/07/22
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/15/22 15:58
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	86		70-130
4-Bromofluorobenzene	83		70-130
Dibromofluoromethane	118		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2236039
Report Date: 07/20/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/15/22 09:50
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1664195-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	86		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	112		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2236039
Report Date: 07/20/22

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1664195-3 WG1664195-4								
Benzene	86		87		70-130	1		20
Toluene	80		82		70-130	2		20
Ethylbenzene	80		80		70-130	0		20
p/m-Xylene	90		85		70-130	6		20
o-Xylene	85		90		70-130	6		20
Naphthalene	83		82		70-130	1		20

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
1,2-Dichloroethane-d4	100		102		70-130
Toluene-d8	88		90		70-130
4-Bromofluorobenzene	84		84		70-130
Dibromofluoromethane	110		112		70-130

Project Name: COA-GW**Lab Number:** L2236039**Project Number:** 20010210**Report Date:** 07/20/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2236039-01A	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2236039-01B	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2236039-01C	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2236039-02A	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2236039-02B	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2236039-02C	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2236039-03A	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2236039-03B	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2236039-03C	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2236039-04A	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2236039-04B	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2236039-04C	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2236039-05A	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)
L2236039-05B	Vial HCl preserved	A	NA		2.3	Y	Absent		PA-8260(14)

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2236039
Report Date: 07/20/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
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Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2236039
Report Date: 07/20/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2236039
Report Date: 07/20/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 7/8/22

ALPHA Job #: L2236039

WESTBORO, MA
TEL: 508-896-9220
FAX: 508-896-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: COA - GW
Project Location: Cell 5 extraction
Project #: 20010210
Project Manager: Bob Twarkowski
ALPHA Quote #:

Report Information - Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: TPA

Address:

Phone:

Fax:

Email: SKABIS@ARMGroup.net

Standard RUSH (only confirmed if pre-approved)

Date Due: Time:

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Regulatory Requirements/Report Limits

State /Fed Program Criteria

Turn-Around Time

ANALYSIS	SAMPLE HANDLING										TOTAL # BOTTLES	
	Filtration _____ <input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below)											
STEX + Napth/ox 8/260												

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials							Sample Specific Comments		
		Date	Time											
36039 01	CO G5-P2M 005	7/6/22	0915	GW	TJP	X								3
02	CO G4-P2M 006		1435	GW	TJP	X								3
03	CO G3-P2M 007		1456	GW	TJP	X								3
04	CO G1-P2M 007		1605	GW	TJP	X								3
05	TB-WT-1		-	X	TJP	X								2

Wendy Morey 7/8/22 1:20

Container Type

Preservative

Relinquished By

Date/Time

Received By

Date/Time

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



ANALYTICAL REPORT

Lab Number:	L2241347
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA GW
Project Number:	20010218
Report Date:	08/15/22

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

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

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



Project Name: COA GW
Project Number: 20010218

Lab Number: L2241347
Report Date: 08/15/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2241347-01	CO195-MWS	WATER	Not Specified	08/02/22 13:23	08/02/22
L2241347-02	CO30-PZM015	WATER	Not Specified	08/02/22 14:55	08/02/22
L2241347-03	TB-WT-01	WATER	Not Specified	08/02/22 00:00	08/02/22

Project Name: COA GW
Project Number: 20010218

Lab Number: L2241347
Report Date: 08/15/22

Case Narrative

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

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

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

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

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

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

Project Name: COA GW
Project Number: 20010218

Lab Number: L2241347
Report Date: 08/15/22

Case Narrative (continued)

Report Submission

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

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

Authorized Signature:



Steven Gniadek

Title: Technical Director/Representative

Date: 08/15/22

ORGANICS

VOLATILES

Project Name: COA GW
Project Number: 20010218

Lab Number: L2241347
Report Date: 08/15/22

SAMPLE RESULTS

Lab ID: L2241347-01 D
 Client ID: CO195-MWS
 Sample Location: Not Specified

Date Collected: 08/02/22 13:23
 Date Received: 08/02/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/09/22 14:52
 Analyst: MV

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

Volatile Organics by GC/MS - Westborough Lab						
Benzene	38000		ug/l	200	64.	400
Toluene	3100		ug/l	300	81.	400
Ethylbenzene	ND		ug/l	200	67.	400
p/m-Xylene	610		ug/l	400	130	400
o-Xylene	250	J	ug/l	400	160	400
Xylenes, Total	860	J	ug/l	400	130	400
Naphthalene	1900		ug/l	400	86.	400

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	102		70-130

Project Name: COA GW
Project Number: 20010218

Lab Number: L2241347
Report Date: 08/15/22

SAMPLE RESULTS

Lab ID: L2241347-02 D
 Client ID: CO30-PZM015
 Sample Location: Not Specified

Date Collected: 08/02/22 14:55
 Date Received: 08/02/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/09/22 14:28
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	54000		ug/l	250	80.	500
Toluene	4300		ug/l	380	100	500
Ethylbenzene	120	J	ug/l	250	84.	500
p/m-Xylene	1000		ug/l	500	170	500
o-Xylene	460	J	ug/l	500	200	500
Xylenes, Total	1500	J	ug/l	500	170	500
Naphthalene	2100		ug/l	500	110	500

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	102		70-130

Project Name: COA GW
Project Number: 20010218

Lab Number: L2241347
Report Date: 08/15/22

SAMPLE RESULTS

Lab ID: L2241347-03
 Client ID: TB-WT-01
 Sample Location: Not Specified

Date Collected: 08/02/22 00:00
 Date Received: 08/02/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/09/22 14:04
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	103		70-130

Project Name: COA GW
Project Number: 20010218

Lab Number: L2241347
Report Date: 08/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/09/22 08:56
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1673593-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	0.46	J	ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA GW
Project Number: 20010218

Lab Number: L2241347
Report Date: 08/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1673593-3 WG1673593-4								
Benzene	93		91		70-130	2		20
Toluene	90		88		70-130	2		20
Ethylbenzene	89		89		70-130	0		20
p/m-Xylene	95		90		70-130	5		20
o-Xylene	90		90		70-130	0		20
Naphthalene	78		84		70-130	7		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		94		70-130
Toluene-d8	95		96		70-130
4-Bromofluorobenzene	94		94		70-130
Dibromofluoromethane	100		101		70-130

Project Name: COA GW**Lab Number:** L2241347**Project Number:** 20010218**Report Date:** 08/15/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2241347-01A	Vial HCl preserved	B	NA		2.3	Y	Absent		PA-8260(14)
L2241347-01B	Vial HCl preserved	B	NA		2.3	Y	Absent		PA-8260(14)
L2241347-01C	Vial HCl preserved	B	NA		2.3	Y	Absent		PA-8260(14)
L2241347-02A	Vial HCl preserved	B	NA		2.3	Y	Absent		PA-8260(14)
L2241347-02B	Vial HCl preserved	B	NA		2.3	Y	Absent		PA-8260(14)
L2241347-02C	Vial HCl preserved	B	NA		2.3	Y	Absent		PA-8260(14)
L2241347-03A	Vial HCl preserved	B	NA		2.3	Y	Absent		PA-8260(14)
L2241347-03B	Vial HCl preserved	B	NA		2.3	Y	Absent		PA-8260(14)
L2241347-03C	Vial HCl preserved	NA	NA			Y	Absent		PA-8260(14)

Project Name: COA GW
Project Number: 20010218

Lab Number: L2241347
Report Date: 08/15/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
	Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 20010218

Lab Number: L2241347
Report Date: 08/15/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 20010218

Lab Number: L2241347
Report Date: 08/15/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 20010218

Lab Number: L2241347
Report Date: 08/15/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: COA GW

Project Location:

Project #: 20010218

Project Manager: Bob Walkowski

ALPHA Quote #:

Date Rec'd in Lab: 8/13/22

ALPHA Job #: 2241347

Report Information - Data Deliverables

FAX EMAIL

ADEx Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: TPA

Address:

Phone:

Fax:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: Time:

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Regulatory Requirements/Report Limits

State /Fed Program Criteria

ANALYSIS	BTEX	PZCO	NAP/1,1-dichloro ethene	ZG6	TOTAL # BOTTLES

SAMPLE HANDLING

Filtration _____

Done

Not needed

Lab to do

Preservation

Lab to do

(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
		Date	Time				
41347 01	CO195-MWS	8/2/22	1323	GW	TPA		3
02	CO30-PZM015	↓	1455	1	TPA		3
03	TB-WT-01	↓	—	X-	TPA		2

Container Type V V

Preservative B B

Relinquished By: <u>[Signature]</u>	Date/Time: <u>8/2/22 1550</u>	Received By: <u>[Signature]</u>	Date/Time: <u>8/2/22 1550</u>
<u>[Signature]</u>	<u>8/2/22 1745</u>	<u>[Signature]</u>	<u>8/2/22 2100</u>
<u>[Signature]</u>	<u>8/2/22 2000</u>	<u>[Signature]</u>	<u>8/2/22 2100</u>

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



ANALYTICAL REPORT

Lab Number:	L2241734
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA-GW
Project Number:	20010210
Report Date:	10/24/22

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

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

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



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2241734
Report Date: 10/24/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2241734-01	CO23-PZM008	WATER	Not Specified	08/03/22 08:45	08/03/22
L2241734-02	CO24-PZM007	WATER	Not Specified	08/03/22 10:00	08/03/22
L2241734-03	CO26-PZM032	WATER	Not Specified	08/03/22 11:45	08/03/22
L2241734-04	CO56-PZP001	WATER	Not Specified	08/03/22 13:50	08/03/22
L2241734-05	CO55-PZM000	WATER	Not Specified	08/03/22 15:00	08/03/22
L2241734-06	TB-WT-01	WATER	Not Specified	08/03/22 00:00	08/03/22

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2241734
Report Date: 10/24/22

Case Narrative

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

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

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

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

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

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

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2241734
Report Date: 10/24/22

Case Narrative (continued)

Report Revision

October 24, 2022: The Client ID was amended on L2241734-03.

Report Submission

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

Volatile Organics

L2241734-05: The pH was greater than two; however, the sample was analyzed within the method required holding time.

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

Authorized Signature:  Melissa Sturgis

Title: Technical Director/Representative

Date: 10/24/22

ORGANICS

VOLATILES

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2241734
Report Date: 10/24/22

SAMPLE RESULTS

Lab ID: L2241734-01 D
 Client ID: CO23-PZM008
 Sample Location: Not Specified

Date Collected: 08/03/22 08:45
 Date Received: 08/03/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/10/22 10:58
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	450		ug/l	20	6.4	40
Toluene	280		ug/l	30	8.1	40
Ethylbenzene	24		ug/l	20	6.7	40
p/m-Xylene	300		ug/l	40	13.	40
o-Xylene	120		ug/l	40	16.	40
Xylenes, Total	420		ug/l	40	13.	40
Naphthalene	3500		ug/l	40	8.6	40

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	79		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	99		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2241734
Report Date: 10/24/22

SAMPLE RESULTS

Lab ID: L2241734-02 D
 Client ID: CO24-PZM007
 Sample Location: Not Specified

Date Collected: 08/03/22 10:00
 Date Received: 08/03/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/10/22 10:11
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	10	3.2	20
Toluene	ND		ug/l	15	4.1	20
Ethylbenzene	ND		ug/l	10	3.3	20
p/m-Xylene	ND		ug/l	20	6.6	20
o-Xylene	ND		ug/l	20	7.8	20
Xylenes, Total	ND		ug/l	20	6.6	20
Naphthalene	1800		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	81		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	104		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2241734
Report Date: 10/24/22

SAMPLE RESULTS

Lab ID: L2241734-03
 Client ID: CO26-PZM032
 Sample Location: Not Specified

Date Collected: 08/03/22 11:45
 Date Received: 08/03/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/10/22 09:25
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	79		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	101		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2241734
Report Date: 10/24/22

SAMPLE RESULTS

Lab ID: L2241734-04 D
 Client ID: CO56-PZP001
 Sample Location: Not Specified

Date Collected: 08/03/22 13:50
 Date Received: 08/03/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/10/22 10:35
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	200		ug/l	10	3.2	20
Toluene	53		ug/l	15	4.1	20
Ethylbenzene	7.2	J	ug/l	10	3.3	20
p/m-Xylene	120		ug/l	20	6.6	20
o-Xylene	44		ug/l	20	7.8	20
Xylenes, Total	160		ug/l	20	6.6	20
Naphthalene	2000		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	79		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	100		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2241734
Report Date: 10/24/22

SAMPLE RESULTS

Lab ID: L2241734-05
 Client ID: CO55-PZM000
 Sample Location: Not Specified

Date Collected: 08/03/22 15:00
 Date Received: 08/03/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/10/22 09:48
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatiles Organics by GC/MS - Westborough Lab						
Benzene	0.39	J	ug/l	0.50	0.16	1
Toluene	0.27	J	ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	0.34	J	ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	0.34	J	ug/l	1.0	0.33	1
Naphthalene	3.8		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	79		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	101		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2241734
Report Date: 10/24/22

SAMPLE RESULTS

Lab ID: L2241734-06
 Client ID: TB-WT-01
 Sample Location: Not Specified

Date Collected: 08/03/22 00:00
 Date Received: 08/03/22
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/10/22 09:02
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	75		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	99		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2241734
Report Date: 10/24/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/10/22 08:34
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1673939-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	78		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW

Project Number: 20010210

Lab Number: L2241734

Report Date: 10/24/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1673939-3 WG1673939-4								
Benzene	86		87		70-130	1		20
Toluene	93		96		70-130	3		20
Ethylbenzene	93		94		70-130	1		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	95		95		70-130	0		20
Naphthalene	78		87		70-130	11		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	78		77		70-130
Toluene-d8	100		102		70-130
4-Bromofluorobenzene	110		110		70-130
Dibromofluoromethane	93		92		70-130

Project Name: COA-GW**Lab Number:** L2241734**Project Number:** 20010210**Report Date:** 10/24/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2241734-01A	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-01B	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-01C	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-02A	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-02B	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-02C	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-03A	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-03B	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-03C	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-04A	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-04B	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-04C	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-05A	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-05B	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-05C	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-06A	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)
L2241734-06B	Vial HCl preserved	A	NA		3.2	Y	Absent		PA-8260(14)

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2241734
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GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
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Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
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Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2241734
Report Date: 10/24/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: **TPA**
Address:

Phone:

Fax:

Project Information

Project Name: **COA-GW**

Project Location:

Project #: **20010210**

Project Manager: **Bob Tworowski**

ALPHA Quote #:

Turn-Around Time

Date Rec'd in Lab: **8/4/22**

ALPHA Job #: **L2241734**

Report Information - Data Deliverables

- FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program Criteria

Email: **SKABZ@TPA.com**
 These samples have been previously analyzed by Alpha

Standard RUSH (only confirmed if pre-approved)

Date Due: Time:

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

BTEX 8/26
Naphthalene 8/26

SAMPLE HANDLING

Filtration _____

Done

Not needed

Lab to do

Preservation _____

Lab to do

(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials						Sample Specific Comments		
		Date	Time										
41734-01	C023-P2M008	8/3/22	0845	GW	TJP	X	X						3
-02	C024-P2M007		1000		TJP	X	X						3
-03	C026-P2M007		1145		TJP	X	X						3
-04	C056-P2P001		1350		TJP	X	X						3
-05	C055-P2M000		1500		TJP	X	X						3
-06	TB-Wt-01			X	TJP	X	X						2

Container Type **V V**
Preservative **B B**

Relinquished By: [Signature]	Date/Time: 8/3/22 16:00	Received By: [Signature]	Date/Time: 8/3/22 16:00
-------------------------------------	--------------------------------	---------------------------------	--------------------------------

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



ANALYTICAL REPORT

Lab Number:	L2242100
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA-GW
Project Number:	20010210
Report Date:	08/17/22

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

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



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2242100-01	CO59-PZP002	WATER	Not Specified	08/04/22 11:05	08/04/22
L2242100-02	CO57-PZP002	WATER	Not Specified	08/04/22 12:05	08/04/22
L2242100-03	CO58-PZM001	WATER	Not Specified	08/04/22 13:00	08/04/22
L2242100-04	CO42-PZM004	WATER	Not Specified	08/04/22 14:10	08/04/22
L2242100-05	TB-WT-01	WATER	Not Specified	08/04/22 00:00	08/04/22

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

Case Narrative

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

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

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

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

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

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

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

Case Narrative (continued)

Report Submission

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

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

Authorized Signature:



Steven Gniadek

Title: Technical Director/Representative

Date: 08/17/22

ORGANICS

VOLATILES

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

SAMPLE RESULTS

Lab ID: L2242100-01
 Client ID: CO59-PZP002
 Sample Location: Not Specified

Date Collected: 08/04/22 11:05
 Date Received: 08/04/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/10/22 16:01
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	13		ug/l	0.50	0.16	1
Toluene	4.4		ug/l	0.75	0.20	1
Ethylbenzene	0.54		ug/l	0.50	0.17	1
p/m-Xylene	6.3		ug/l	1.0	0.33	1
o-Xylene	2.8		ug/l	1.0	0.39	1
Xylenes, Total	9.1		ug/l	1.0	0.33	1
Naphthalene	53		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	80		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	100		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

SAMPLE RESULTS

Lab ID: L2242100-02
 Client ID: CO57-PZP002
 Sample Location: Not Specified

Date Collected: 08/04/22 12:05
 Date Received: 08/04/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/10/22 14:51
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	104		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

SAMPLE RESULTS

Lab ID: L2242100-03 D
 Client ID: CO58-PZM001
 Sample Location: Not Specified

Date Collected: 08/04/22 13:00
 Date Received: 08/04/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/10/22 16:25
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	72		ug/l	2.5	0.80	5
Toluene	26		ug/l	3.8	1.0	5
Ethylbenzene	3.4		ug/l	2.5	0.84	5
p/m-Xylene	46		ug/l	5.0	1.7	5
o-Xylene	18		ug/l	5.0	2.0	5
Xylenes, Total	64		ug/l	5.0	1.7	5
Naphthalene	770		ug/l	5.0	1.1	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	81		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	102		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

SAMPLE RESULTS

Lab ID: L2242100-04 D
 Client ID: CO42-PZM004
 Sample Location: Not Specified

Date Collected: 08/04/22 14:10
 Date Received: 08/04/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/10/22 15:38
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	160		ug/l	1.2	0.40	2.5
Toluene	270		ug/l	1.9	0.51	2.5
Ethylbenzene	14		ug/l	1.2	0.42	2.5
p/m-Xylene	92		ug/l	2.5	0.83	2.5
o-Xylene	62		ug/l	2.5	0.98	2.5
Xylenes, Total	150		ug/l	2.5	0.83	2.5
Naphthalene	73		ug/l	2.5	0.54	2.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	79		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	98		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

SAMPLE RESULTS

Lab ID: L2242100-05
 Client ID: TB-WT-01
 Sample Location: Not Specified

Date Collected: 08/04/22 00:00
 Date Received: 08/04/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/10/22 15:14
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	83		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	106		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260C
Analytical Date: 08/10/22 08:34
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1673939-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	78		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

Parameter	LCS		LCSD		%Recovery Limits	RPD	RPD	
	%Recovery	Qual	%Recovery	Qual			Qual	Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1673939-3 WG1673939-4								
Benzene	86		87		70-130	1		20
Toluene	93		96		70-130	3		20
Ethylbenzene	93		94		70-130	1		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	95		95		70-130	0		20
Naphthalene	78		87		70-130	11		20

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
1,2-Dichloroethane-d4	78		77		70-130
Toluene-d8	100		102		70-130
4-Bromofluorobenzene	110		110		70-130
Dibromofluoromethane	93		92		70-130

Project Name: COA-GW**Lab Number:** L2242100**Project Number:** 20010210**Report Date:** 08/17/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2242100-01A	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-01B	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-01C	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-02A	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-02B	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-02C	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-03A	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-03B	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-03C	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-04A	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-04B	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-04C	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-05A	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-05B	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-05C	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)
L2242100-05D	Vial HCl preserved	A	NA		2.9	Y	Absent		PA-8260(14)

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242100
Report Date: 08/17/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 8/5/22

ALPHA Job #: L2242100

Project Information

Project Name: COA - GW

Project Location:

Project #: 20010210

Project Manager: Bob Tronickowski

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: Time:

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: TPA

Address:

Phone:

Fax:

Email: Skabicki Amy@tpa.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS
BTEX 8/10
NAPthalene 8/10

SAMPLE HANDLING

Filtration _____
 Done
 Not needed
 Lab to do
Preservation
 Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS	SAMPLE HANDLING	Sample Specific Comments	TOTAL # BOTTLES
		Date	Time						
42100-01	C059-P2P002	8/4/22	1105	GW	TJP	XX			2
-02	C057-P2P002		1205	↓	TJP	XX			3
-03	C058-P2M001		1300	↓	TJP	XX			3
-04	C042-P2M004		1410	↓	TJP	XX			3
-05	TB-Wt-01		-	XI	TJP	XX			4

Container Type V V

Preservative B B

Relinquished By: [Signature]

Date/Time: 8/4/22

Received By: [Signature]

Date/Time: 8/4/22

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



ANALYTICAL REPORT

Lab Number:	L2242844
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA-GW
Project Number:	20010210
Report Date:	08/23/22

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

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

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



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2242844-01	CO36-PZM043	WATER	Not Specified	08/09/22 08:35	08/09/22
L2242844-02	CO36-PZM008	WATER	Not Specified	08/09/22 09:30	08/09/22
L2242844-03	CO41-PZM036	WATER	Not Specified	08/09/22 11:20	08/09/22
L2242844-04	CO41-PZM001	WATER	Not Specified	08/09/22 12:10	08/09/22
L2242844-05	CO38-PZM043	WATER	Not Specified	08/09/22 14:00	08/09/22
L2242844-06	TB-WT-01	WATER	Not Specified	08/09/22 00:00	08/09/22

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

Case Narrative

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

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

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

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

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

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

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

Case Narrative (continued)

Report Submission

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

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

Authorized Signature:  Tiffani Morrissey

Title: Technical Director/Representative

Date: 08/23/22

ORGANICS

VOLATILES

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

SAMPLE RESULTS

Lab ID: L2242844-01 D
 Client ID: CO36-PZM043
 Sample Location: Not Specified

Date Collected: 08/09/22 08:35
 Date Received: 08/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/17/22 10:10
 Analyst: LAC

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

Volatile Organics by GC/MS - Westborough Lab						
Benzene	20000		ug/l	50	16.	100
Toluene	2800		ug/l	75	20.	100
Ethylbenzene	51		ug/l	50	17.	100
p/m-Xylene	540		ug/l	100	33.	100
o-Xylene	200		ug/l	100	39.	100
Xylenes, Total	740		ug/l	100	33.	100
Naphthalene	720		ug/l	100	22.	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	93		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

SAMPLE RESULTS

Lab ID: L2242844-02 D
 Client ID: CO36-PZM008
 Sample Location: Not Specified

Date Collected: 08/09/22 09:30
 Date Received: 08/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/16/22 21:56
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	12000	E	ug/l	20	6.4	40
Toluene	2700		ug/l	30	8.1	40
Ethylbenzene	53		ug/l	20	6.7	40
p/m-Xylene	670		ug/l	40	13.	40
o-Xylene	220		ug/l	40	16.	40
Xylenes, Total	890		ug/l	40	13.	40
Naphthalene	560		ug/l	40	8.6	40

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	93		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

SAMPLE RESULTS

Lab ID: L2242844-02 D
 Client ID: CO36-PZM008
 Sample Location: Not Specified

Date Collected: 08/09/22 09:30
 Date Received: 08/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/17/22 11:00
 Analyst: LAC

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

Benzene	9900		ug/l	100	32.	200
---------	------	--	------	-----	-----	-----

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	98		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

SAMPLE RESULTS

Lab ID: L2242844-03 D2
 Client ID: CO41-PZM036
 Sample Location: Not Specified

Date Collected: 08/09/22 11:20
 Date Received: 08/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/17/22 11:25
 Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	200000		ug/l	1200	400	2500

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	97		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

SAMPLE RESULTS

Lab ID: L2242844-03 D
 Client ID: CO41-PZM036
 Sample Location: Not Specified

Date Collected: 08/09/22 11:20
 Date Received: 08/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/16/22 21:31
 Analyst: MV

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

Volatile Organics by GC/MS - Westborough Lab						
Benzene	210000	E	ug/l	500	160	1000
Toluene	82000		ug/l	750	200	1000
Ethylbenzene	870		ug/l	500	170	1000
p/m-Xylene	13000		ug/l	1000	330	1000
o-Xylene	3800		ug/l	1000	390	1000
Xylenes, Total	17000		ug/l	1000	330	1000
Naphthalene	ND		ug/l	1000	220	1000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	94		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

SAMPLE RESULTS

Lab ID: L2242844-04 D2
 Client ID: CO41-PZM001
 Sample Location: Not Specified

Date Collected: 08/09/22 12:10
 Date Received: 08/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/18/22 10:17
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	18000		ug/l	250	80.	500
Toluene	11000		ug/l	380	100	500

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	98		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

SAMPLE RESULTS

Lab ID: L2242844-04 D
 Client ID: CO41-PZM001
 Sample Location: Not Specified

Date Collected: 08/09/22 12:10
 Date Received: 08/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/17/22 10:35
 Analyst: LAC

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

Volatile Organics by GC/MS - Westborough Lab						
Benzene	24000	E	ug/l	25	8.0	50
Toluene	15000	E	ug/l	38	10.	50
Ethylbenzene	660		ug/l	25	8.4	50
p/m-Xylene	5700		ug/l	50	17.	50
o-Xylene	1100		ug/l	50	20.	50
Xylenes, Total	6800		ug/l	50	17.	50
Naphthalene	440		ug/l	50	11.	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	89		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

SAMPLE RESULTS

Lab ID: L2242844-05
 Client ID: CO38-PZM043
 Sample Location: Not Specified

Date Collected: 08/09/22 14:00
 Date Received: 08/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/16/22 20:40
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	2.0		ug/l	0.50	0.16	1
Toluene	0.89		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	0.82	J	ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	0.82	J	ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	107		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

SAMPLE RESULTS

Lab ID: L2242844-06
 Client ID: TB-WT-01
 Sample Location: Not Specified

Date Collected: 08/09/22 00:00
 Date Received: 08/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/16/22 20:15
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatiles Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	106		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260C
Analytical Date: 08/16/22 16:05
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-03,05-06 Batch: WG1676215-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	103		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/17/22 08:55
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1676871-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	99		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/18/22 08:59
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG1677363-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW

Project Number: 20010210

Lab Number: L2242844

Report Date: 08/23/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-03,05-06 Batch: WG1676215-3 WG1676215-4								
Benzene	100		100		70-130	0		20
Toluene	98		97		70-130	1		20
Ethylbenzene	100		99		70-130	1		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Naphthalene	80		84		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		97		70-130
Toluene-d8	101		100		70-130
4-Bromofluorobenzene	106		98		70-130
Dibromofluoromethane	102		103		70-130

Lab Control Sample Analysis Batch Quality Control

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1676871-3 WG1676871-4								
Benzene	100		110		70-130	10		20
Toluene	99		100		70-130	1		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	95		100		70-130	5		20
Naphthalene	84		89		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		99		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	98		96		70-130
Dibromofluoromethane	103		104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG1677363-3 WG1677363-4								
Benzene	99		100		70-130	1		20
Toluene	98		100		70-130	2		20
Ethylbenzene	99		100		70-130	1		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		100		70-130	5		20
Naphthalene	70		82		70-130	16		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	109		113		70-130
Toluene-d8	104		104		70-130
4-Bromofluorobenzene	93		92		70-130
Dibromofluoromethane	98		99		70-130

Project Name: COA-GW**Lab Number:** L2242844**Project Number:** 20010210**Report Date:** 08/23/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2242844-01A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-01B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-01C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-02A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-02B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-02C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-03A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-03B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-03C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-04A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-04B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-04C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-05A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-05B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-05C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-06A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-06B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-06C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2242844-06D	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2242844
Report Date: 08/23/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

Project Information

Project Name: COA - GW

Project Location:

Project #: 20010210

Project Manager:

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: Time:

Date Rec'd in Lab: 8/10/22

ALPHA Job #: 42242844

Report Information - Data Deliverables

FAX EMAIL

ADEX Add'l Deliverables

Same as Client info PO #:

Client Information

Client: TPA

Address:

Phone:

Fax:

Email: SKABIS@Acme.com

These samples have been previously analyzed by Alpha

Regulatory Requirements/Report Limits

State /Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

Naphthalene 260
BTEX 260

SAMPLE HANDLING

Filtration _____

Done

Not needed

Lab to do

Preservation

Lab to do

(Please specify below)

Sample Specific Comments

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS	SAMPLE HANDLING	TOTAL # BOTTLES
		Date	Time					
42844-01	C036-P2M043	8/9/22	0835	GW	JSB	X		3
-02	C036-P2M008	↑	0930	↓	JSB	X		3
-03	C041-P2M036	↓	1120	↓	JSB	X		3
-04	C041-P2M001	↓	1210	↓	JSB	X		3
-05	C038-P2M043	↓	1400	↓	JSB	X		3
-06	TB-Wt-01	↓	X	X	JSB	X		4

Container Type: V V

Preservative: B B

Relinquished By: [Signature] Date/Time: 8/17/22 1600

Received By: Tom Chadwell Date/Time: 8/9/22 1600

Relinquished By: [Signature] Date/Time: 8/9/22 2100

Received By: [Signature] Date/Time: 8/9/22 2100

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



ANALYTICAL REPORT

Lab Number:	L2243179
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA-GW
Project Number:	2001210
Report Date:	08/24/22

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

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

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



Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243179
Report Date: 08/24/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2243179-01	CO39-PZM042	WATER	Not Specified	08/10/22 08:05	08/10/22
L2243179-02	CO39-PZM007	WATER	Not Specified	08/10/22 08:50	08/10/22
L2243179-03	CO38-PZM006	WATER	Not Specified	08/10/22 10:25	08/10/22
L2243179-04	CO27-PZM012	WATER	Not Specified	08/10/22 11:25	08/10/22
L2243179-05	CO27-PZM046	WATER	Not Specified	08/10/22 14:20	08/10/22
L2243179-06	TB-WT-01	WATER	Not Specified	08/10/22 00:00	08/10/22

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243179
Report Date: 08/24/22

Case Narrative

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

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

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

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

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

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

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243179
Report Date: 08/24/22

Case Narrative (continued)

Report Submission

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

Volatile Organics

L2243179-01D: Differences were noted between the results of the analyses which have been attributed to vial discrepancies. Further re-analysis could not be performed due to the existing vials being compromised.

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

Authorized Signature:

 Cristin Walker

Title: Technical Director/Representative

Date: 08/24/22

ORGANICS

VOLATILES

Project Name: COA-GW**Lab Number:** L2243179**Project Number:** 2001210**Report Date:** 08/24/22**SAMPLE RESULTS**

Lab ID: L2243179-01 D

Date Collected: 08/10/22 08:05

Client ID: CO39-PZM042

Date Received: 08/10/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 08/16/22 22:47

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	6300		ug/l	50	16.	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	100		70-130

Project Name: COA-GW**Lab Number:** L2243179**Project Number:** 2001210**Report Date:** 08/24/22**SAMPLE RESULTS**

Lab ID: L2243179-01 D

Date Collected: 08/10/22 08:05

Client ID: CO39-PZM042

Date Received: 08/10/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 08/17/22 09:20

Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	10000	E	ug/l	25	8.0	50
Toluene	2300		ug/l	38	10.	50
Ethylbenzene	70		ug/l	25	8.4	50
p/m-Xylene	390		ug/l	50	17.	50
o-Xylene	190		ug/l	50	20.	50
Xylenes, Total	580		ug/l	50	17.	50
Naphthalene	1600		ug/l	50	11.	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	92		70-130

Project Name: COA-GW

Lab Number: L2243179

Project Number: 2001210

Report Date: 08/24/22

SAMPLE RESULTS

Lab ID: L2243179-02 D

Date Collected: 08/10/22 08:50

Client ID: CO39-PZM007

Date Received: 08/10/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 08/16/22 23:12

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	1000		ug/l	5.0	1.6	10
Toluene	140		ug/l	7.5	2.0	10
Ethylbenzene	4.6	J	ug/l	5.0	1.7	10
p/m-Xylene	22		ug/l	10	3.3	10
o-Xylene	13		ug/l	10	3.9	10
Xylenes, Total	35		ug/l	10	3.3	10
Naphthalene	460		ug/l	10	2.2	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	97		70-130

Project Name: COA-GW

Lab Number: L2243179

Project Number: 2001210

Report Date: 08/24/22

SAMPLE RESULTS

Lab ID: L2243179-03 D
 Client ID: CO38-PZM006
 Sample Location: Not Specified

Date Collected: 08/10/22 10:25
 Date Received: 08/10/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/16/22 23:38
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	3400		ug/l	20	6.4	40
Toluene	400		ug/l	30	8.1	40
Ethylbenzene	38		ug/l	20	6.7	40
p/m-Xylene	180		ug/l	40	13.	40
o-Xylene	76		ug/l	40	16.	40
Xylenes, Total	260		ug/l	40	13.	40
Naphthalene	890		ug/l	40	8.6	40

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

Project Name: COA-GW**Lab Number:** L2243179**Project Number:** 2001210**Report Date:** 08/24/22**SAMPLE RESULTS**

Lab ID: L2243179-04 D

Date Collected: 08/10/22 11:25

Client ID: CO27-PZM012

Date Received: 08/10/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 08/17/22 00:03

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	8700		ug/l	50	16.	100
Toluene	3200		ug/l	75	20.	100
Ethylbenzene	100		ug/l	50	17.	100
p/m-Xylene	620		ug/l	100	33.	100
o-Xylene	260		ug/l	100	39.	100
Xylenes, Total	880		ug/l	100	33.	100
Naphthalene	820		ug/l	100	22.	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

Project Name: COA-GW**Lab Number:** L2243179**Project Number:** 2001210**Report Date:** 08/24/22**SAMPLE RESULTS**

Lab ID: L2243179-05 D2

Date Collected: 08/10/22 14:20

Client ID: CO27-PZM046

Date Received: 08/10/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 08/18/22 10:44

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	13000		ug/l	100	32.	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	97		70-130

Project Name: COA-GW

Lab Number: L2243179

Project Number: 2001210

Report Date: 08/24/22

SAMPLE RESULTS

Lab ID: L2243179-05 D
 Client ID: CO27-PZM046
 Sample Location: Not Specified

Date Collected: 08/10/22 14:20
 Date Received: 08/10/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/17/22 09:46
 Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	16000	E	ug/l	25	8.0	50
Toluene	5600		ug/l	38	10.	50
Ethylbenzene	190		ug/l	25	8.4	50
p/m-Xylene	1100		ug/l	50	17.	50
o-Xylene	460		ug/l	50	20.	50
Xylenes, Total	1600		ug/l	50	17.	50
Naphthalene	1200		ug/l	50	11.	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	91		70-130

Project Name: COA-GW

Lab Number: L2243179

Project Number: 2001210

Report Date: 08/24/22

SAMPLE RESULTS

Lab ID: L2243179-06

Date Collected: 08/10/22 00:00

Client ID: TB-WT-01

Date Received: 08/10/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 08/18/22 09:20

Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	103		70-130

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243179
Report Date: 08/24/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/16/22 16:05
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1676215-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	103		70-130

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243179
Report Date: 08/24/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/17/22 08:55
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,05 Batch: WG1676871-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	99		70-130

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243179
Report Date: 08/24/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/18/22 08:54
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 06 Batch: WG1677317-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	104		70-130

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243179
Report Date: 08/24/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/18/22 08:59
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG1677363-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW

Project Number: 2001210

Lab Number: L2243179

Report Date: 08/24/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1676215-3 WG1676215-4								
Benzene	100		100		70-130	0		20
Toluene	98		97		70-130	1		20
Ethylbenzene	100		99		70-130	1		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Naphthalene	80		84		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		97		70-130
Toluene-d8	101		100		70-130
4-Bromofluorobenzene	106		98		70-130
Dibromofluoromethane	102		103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW

Project Number: 2001210

Lab Number: L2243179

Report Date: 08/24/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,05 Batch: WG1676871-3 WG1676871-4								
Benzene	100		110		70-130	10		20
Toluene	99		100		70-130	1		20
Ethylbenzene	100		100		70-130	0		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	95		100		70-130	5		20
Naphthalene	84		89		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		99		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	98		96		70-130
Dibromofluoromethane	103		104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW

Project Number: 2001210

Lab Number: L2243179

Report Date: 08/24/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06 Batch: WG1677317-3 WG1677317-4								
Benzene	100		110		70-130	10		20
Toluene	98		100		70-130	2		20
Ethylbenzene	99		100		70-130	1		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		100		70-130	5		20
Naphthalene	86		89		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	99		102		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW

Project Number: 2001210

Lab Number: L2243179

Report Date: 08/24/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG1677363-3 WG1677363-4								
Benzene	99		100		70-130	1		20
Toluene	98		100		70-130	2		20
Ethylbenzene	99		100		70-130	1		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		100		70-130	5		20
Naphthalene	70		82		70-130	16		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	109		113		70-130
Toluene-d8	104		104		70-130
4-Bromofluorobenzene	93		92		70-130
Dibromofluoromethane	98		99		70-130

Project Name: COA-GW**Lab Number:** L2243179**Project Number:** 2001210**Report Date:** 08/24/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2243179-01A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-01B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-01C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-02A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-02B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-02C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-03A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-03B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-03C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-04A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-04B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-04C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-05A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-05B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-05C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-06A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243179-06B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243179
Report Date: 08/24/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243179
Report Date: 08/24/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243179
Report Date: 08/24/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243179
Report Date: 08/24/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3268

Project Information

Project Name: COA - GW

Project Location:

Project #: 200/210

Project Manager: Bob Turkowski

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: _____ Time: _____

Date Rec'd in Lab: 8/11/22

ALPHA Job #: 42243179

Report Information - Data Deliverables

FAX EMAIL

ADEx Add'l Deliverables

Billing Information

Same as Client info PO #: _____

Client Information

Client: TPA

Address:

Phone:

Fax:

Email: SKABIS@ARMCO.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Regulatory Requirements/Report Limits

State /Fed Program _____ Criteria _____

SAMPLE HANDLING

Filtration _____
 Done
 Not needed
 Lab to do
Preservation
 Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials							Sample Specific Comments	TOTAL # BOTTLES	
		Date	Time											
43179-01	C039-P2M042	8/10/22	0805	GW	TP	X	X							3
-02	C039-P2M007		0850		TP	X	X							3
-03	C038-P2M006		1025		TP	X								3
-04	C027-P2M012		1125		TP	X	X							3
-05	C027-P2M046		1420		TP	X	X							3
-06	TB-VT-01		X-	X-	TP	X	X							4

ANALYSIS
BTEX 8/26
Mantle 8/26

Container Type V V
Preservative B B

Relinquished By:	Date/Time	Received By:	Date/Time
<u>[Signature]</u>	<u>8/10/22 1530</u>	<u>[Signature]</u>	<u>8-10-22 1640</u>
<u>[Signature]</u>	<u>8/10/22 1909</u>	<u>[Signature]</u>	<u>8/10/22 1909</u>
<u>[Signature]</u>	<u>8/10/22</u>	<u>[Signature]</u>	<u>8-10-22 2100</u>

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



ANALYTICAL REPORT

Lab Number:	L2243446
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA-GW
Project Number:	2001210
Report Date:	08/25/22

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

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

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



Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243446
Report Date: 08/25/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2243446-01	CO37-PZM038	WATER	Not Specified	08/11/22 10:05	08/11/22
L2243446-02	CO40-PZM008	WATER	Not Specified	08/11/22 13:12	08/11/22
L2243446-03	CO182-MWI	WATER	Not Specified	08/11/22 14:55	08/11/22
L2243446-04	TB-WT-01	WATER	Not Specified	08/11/22 00:00	08/11/22

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243446
Report Date: 08/25/22

Case Narrative

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

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

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

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

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

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

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243446
Report Date: 08/25/22

Case Narrative (continued)

Report Submission

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

Volatile Organics

L2243446-03D2: The analysis was performed utilizing a compromised vial.

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

Authorized Signature:

 Caitlin Walukevich

Title: Technical Director/Representative

Date: 08/25/22

ORGANICS

VOLATILES

Project Name: COA-GW**Lab Number:** L2243446**Project Number:** 2001210**Report Date:** 08/25/22**SAMPLE RESULTS**

Lab ID: L2243446-01 D

Date Collected: 08/11/22 10:05

Client ID: CO37-PZM038

Date Received: 08/11/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 08/18/22 10:59

Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	16000		ug/l	50	16.	100
Toluene	7800		ug/l	75	20.	100
Ethylbenzene	240		ug/l	50	17.	100
p/m-Xylene	1500		ug/l	100	33.	100
o-Xylene	500		ug/l	100	39.	100
Xylenes, Total	2000		ug/l	100	33.	100
Naphthalene	1300		ug/l	100	22.	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	93		70-130

Project Name: COA-GW

Lab Number: L2243446

Project Number: 2001210

Report Date: 08/25/22

SAMPLE RESULTS

Lab ID: L2243446-02 D

Date Collected: 08/11/22 13:12

Client ID: CO40-PZM008

Date Received: 08/11/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 08/18/22 10:35

Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	8300		ug/l	50	16.	100
Toluene	1900		ug/l	75	20.	100
Ethylbenzene	80		ug/l	50	17.	100
p/m-Xylene	340		ug/l	100	33.	100
o-Xylene	150		ug/l	100	39.	100
Xylenes, Total	490		ug/l	100	33.	100
Naphthalene	1100		ug/l	100	22.	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	99		70-130

Project Name: COA-GW**Lab Number:** L2243446**Project Number:** 2001210**Report Date:** 08/25/22**SAMPLE RESULTS**

Lab ID: L2243446-03 D2

Date Collected: 08/11/22 14:55

Client ID: CO182-MWI

Date Received: 08/11/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 08/23/22 19:40

Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	210000		ug/l	2000	640	4000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	102		70-130

Project Name: COA-GW

Lab Number: L2243446

Project Number: 2001210

Report Date: 08/25/22

SAMPLE RESULTS

Lab ID: L2243446-03 D

Date Collected: 08/11/22 14:55

Client ID: CO182-MWI

Date Received: 08/11/22

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 08/18/22 10:10

Analyst: PD

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

Benzene	240000	E	ug/l	500	160	1000
Toluene	17000		ug/l	750	200	1000
Ethylbenzene	800		ug/l	500	170	1000
p/m-Xylene	4500		ug/l	1000	330	1000
o-Xylene	1800		ug/l	1000	390	1000
Xylenes, Total	6300		ug/l	1000	330	1000
Naphthalene	250	J	ug/l	1000	220	1000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	93		70-130

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243446
Report Date: 08/25/22

SAMPLE RESULTS

Lab ID: L2243446-04
 Client ID: TB-WT-01
 Sample Location: Not Specified

Date Collected: 08/11/22 00:00
 Date Received: 08/11/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/18/22 09:45
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	106		70-130

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243446
Report Date: 08/25/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/18/22 08:54
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1677317-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	104		70-130

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243446
Report Date: 08/25/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/23/22 10:23
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG1679145-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	109		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW

Project Number: 2001210

Lab Number: L2243446

Report Date: 08/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1677317-3 WG1677317-4								
Benzene	100		110		70-130	10		20
Toluene	98		100		70-130	2		20
Ethylbenzene	99		100		70-130	1		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		100		70-130	5		20
Naphthalene	86		89		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		97		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	98		97		70-130
Dibromofluoromethane	99		102		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243446
Report Date: 08/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG1679145-3 WG1679145-4								
Benzene	110		120		70-130	9		20
Toluene	110		110		70-130	0		20
Ethylbenzene	110		110		70-130	0		20
p/m-Xylene	105		110		70-130	5		20
o-Xylene	105		110		70-130	5		20
Naphthalene	90		93		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		96		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	98		96		70-130
Dibromofluoromethane	106		106		70-130

Project Name: COA-GW**Lab Number:** L2243446**Project Number:** 2001210**Report Date:** 08/25/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2243446-01A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243446-01B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243446-01C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243446-02A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243446-02B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243446-02C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243446-03A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243446-03B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243446-03C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243446-04A	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243446-04B	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243446-04C	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)
L2243446-04D	Vial HCl preserved	A	NA		3.5	Y	Absent		PA-8260(14)

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243446
Report Date: 08/25/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243446
Report Date: 08/25/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243446
Report Date: 08/25/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: COA-GW
Project Number: 2001210

Lab Number: L2243446
Report Date: 08/25/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: COA-GW
Project Location:
Project #: 2001210
Project Manager: Bob Tworkowski
ALPHA Quote #:

Date Rec'd in Lab: 8/12/22
shelton

ALPHA Job #: L2243446

Client Information

Client: TPA
Address:
Phone:
Fax:
Email: SKABIS @ Amgen.com
 These samples have been previously analyzed by Alpha

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)
Date Due: _____ Time: _____

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #: _____

Regulatory Requirements/Report Limits

State /Fed Program _____ Criteria _____

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS

BTX 8260
Meth 8260

SAMPLE HANDLING

Filtration _____

Done

Not needed

Lab to do

Preservation _____

Lab to do

(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Comments	Sample Specific Comments	TOTAL # BOTTLES
		Date	Time					
43446-01	C037-P2N038	8/11/22	1005	GW	TJP	X		3
-02	C040-P2M008	↓	1312	↓	TJP	X		3
-03	C0182-MWI	↓	1455	↓	TJP	X		3
-04	FB-WT-01	↓	X-	X-	TJP	X		4

Container Type V V
Preservative B B

Relinquished By: <u>[Signature]</u>	Date/Time: <u>8/11/22 1505</u>	Received By: <u>[Signature]</u>	Date/Time: <u>8-11 1600</u>
	<u>8/11 1830</u>		<u>8/11/22 1830</u>
	<u>8/11/22 2100</u>		<u>8-11-22 2100</u>

1. 8/12/22 0120

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



ANALYTICAL REPORT

Lab Number:	L2243782
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA-GW
Project Number:	20010210
Report Date:	08/25/22

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

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

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



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2243782
Report Date: 08/25/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2243782-01	CO190-MWS	WATER	Not Specified	08/12/22 11:48	08/12/22
L2243782-02	CO93-PZM	WATER	Not Specified	08/12/22 12:35	08/12/22
L2243782-03	TB-WT-01	WATER	Not Specified	08/11/22 00:00	08/12/22
L2243782-04	TB-WT-01	WATER	Not Specified	08/02/22 00:00	08/12/22

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2243782
Report Date: 08/25/22

Case Narrative

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

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

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

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

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

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

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2243782
Report Date: 08/25/22

Case Narrative (continued)

Report Submission

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

Sample Receipt

L2243782-01: The collection date and time on the chain of custody was 12-AUG-22 11:48; however, the collection date/time on the container label was 12-AUG-22 10:48. At the client's request, the collection date/time is reported as 12-AUG-22 11:48.

L2243782-03: The sample identified as "TB-WT-01" on the chain of custody was identified as "Trip Blank" on the container label. At the client's request, the sample is reported as "TB-WT-01".

L2243782-04: A sample identified as "TB-WT-01" was received, but not listed on the Chain of Custody. At the client's request, this sample was not analyzed.

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

Authorized Signature:  Tiffani Morrissey

Title: Technical Director/Representative

Date: 08/25/22

ORGANICS

VOLATILES

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2243782
Report Date: 08/25/22

SAMPLE RESULTS

Lab ID: L2243782-01 D
 Client ID: CO190-MWS
 Sample Location: Not Specified

Date Collected: 08/12/22 11:48
 Date Received: 08/12/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/22/22 17:28
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	2200		ug/l	10	3.2	20
Toluene	21		ug/l	15	4.1	20
Ethylbenzene	ND		ug/l	10	3.3	20
p/m-Xylene	ND		ug/l	20	6.6	20
o-Xylene	ND		ug/l	20	7.8	20
Xylenes, Total	ND		ug/l	20	6.6	20
Naphthalene	ND		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	101		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2243782
Report Date: 08/25/22

SAMPLE RESULTS

Lab ID: L2243782-02 D2
 Client ID: CO93-PZM
 Sample Location: Not Specified

Date Collected: 08/12/22 12:35
 Date Received: 08/12/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/23/22 19:15
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	180000		ug/l	1000	320	2000

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	99		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2243782
Report Date: 08/25/22

SAMPLE RESULTS

Lab ID: L2243782-02 D
 Client ID: CO93-PZM
 Sample Location: Not Specified

Date Collected: 08/12/22 12:35
 Date Received: 08/12/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/22/22 17:53
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	110000	E	ug/l	250	80.	500
Toluene	31000		ug/l	380	100	500
Ethylbenzene	810		ug/l	250	84.	500
p/m-Xylene	6500		ug/l	500	170	500
o-Xylene	2300		ug/l	500	200	500
Xylenes, Total	8800		ug/l	500	170	500
Naphthalene	2000		ug/l	500	110	500

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	94		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2243782
Report Date: 08/25/22

SAMPLE RESULTS

Lab ID: L2243782-03
 Client ID: TB-WT-01
 Sample Location: Not Specified

Date Collected: 08/11/22 00:00
 Date Received: 08/12/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 08/22/22 17:02
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	107		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2243782
Report Date: 08/25/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/22/22 08:39
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1678605-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	107		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2243782
Report Date: 08/25/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/23/22 10:23
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1679145-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	109		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2243782
Report Date: 08/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1678605-3 WG1678605-4								
Benzene	110		110		70-130	0		20
Toluene	100		110		70-130	10		20
Ethylbenzene	110		110		70-130	0		20
p/m-Xylene	105		110		70-130	5		20
o-Xylene	100		105		70-130	5		20
Naphthalene	88		91		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		94		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	96		97		70-130
Dibromofluoromethane	103		103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2243782
Report Date: 08/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1679145-3 WG1679145-4								
Benzene	110		120		70-130	9		20
Toluene	110		110		70-130	0		20
Ethylbenzene	110		110		70-130	0		20
p/m-Xylene	105		110		70-130	5		20
o-Xylene	105		110		70-130	5		20
Naphthalene	90		93		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	97		96		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	98		96		70-130
Dibromofluoromethane	106		106		70-130

Project Name: COA-GW**Lab Number:** L2243782**Project Number:** 20010210**Report Date:** 08/25/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2243782-01A	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2243782-01B	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2243782-01C	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2243782-02A	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2243782-02B	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2243782-02C	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2243782-03A	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2243782-03B	Vial HCl preserved	A	NA		2.2	Y	Absent		PA-8260(14)
L2243782-03C	Vial HCl preserved	NA	NA			Y	Absent		PA-8260(14)
L2243782-04A	Vial HCl preserved	A	NA		2.2	Y	Absent		HOLD-8260(14)
L2243782-04B	Vial HCl preserved	A	NA		2.2	Y	Absent		HOLD-8260(14)

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2243782
Report Date: 08/25/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

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Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



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Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2243782
Report Date: 08/25/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: COA-GW

Project Location:

Project #: 20010210

Project Manager:

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: _____ Time: _____

Date Rec'd in Lab: 8/13/22

ALPHA Job #: L2243782

Report Information - Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: TPA

Address:

Phone:

Fax:

Email: SKABIS@ARmgov.net

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Regulatory Requirements/Report Limits

State /Fed Program _____ Criteria _____

ANALYSIS
STEX 8/26/05
WASH the on 8/26/05

SAMPLE HANDLING

- Filtration _____
 - Done
 - Not needed
 - Lab to do
 - Preservation _____
 - Lab to do
- (Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	Sample Specific Comments	TOTAL # BOTTLES
		Date	Time				
43782-01	CO190-MWS	8/12/22	1148	GW	TJP		3
02	CO93-PLM	↓	1235	GW	TJP		3
03	YB-Wt-01	↓	X	M	TJP		4

Container Type	<u>VV</u>
Preservative	<u>B/B</u>

Relinquished By:	Date/Time	Received By:	Date/Time
<u>[Signature]</u>	<u>8/12/22 16:00</u>	<u>[Signature]</u>	<u>8/12/22 16:00</u>
<u>[Signature]</u>	<u>8/12/22 18:10</u>	<u>[Signature]</u>	<u>8/12/22 18:10</u>
<u>[Signature]</u>	<u>8/12/22</u>	<u>[Signature]</u>	<u>8/12/22 9:00</u>

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



ANALYTICAL REPORT

Lab Number:	L2250147
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA-GW
Project Number:	20010210
Report Date:	09/28/22

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

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

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



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2250147
Report Date: 09/28/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2250147-01	CO26-PZM007	WATER	COA	09/14/22 15:00	09/14/22
L2250147-02	TRIP BLANK	WATER	COA	09/14/22 00:00	09/14/22

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2250147
Report Date: 09/28/22

Case Narrative

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

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

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

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

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

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

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2250147
Report Date: 09/28/22

Case Narrative (continued)

Report Submission

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

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

Authorized Signature:  Melissa Sturgis

Title: Technical Director/Representative

Date: 09/28/22

ORGANICS

VOLATILES

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2250147
Report Date: 09/28/22

SAMPLE RESULTS

Lab ID: L2250147-01
 Client ID: CO26-PZM007
 Sample Location: COA

Date Collected: 09/14/22 15:00
 Date Received: 09/14/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 09/22/22 12:44
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	120		ug/l	0.50	0.16	1
Toluene	62		ug/l	0.75	0.20	1
Ethylbenzene	4.1		ug/l	0.50	0.17	1
p/m-Xylene	68		ug/l	1.0	0.33	1
o-Xylene	26		ug/l	1.0	0.39	1
Xylenes, Total	94		ug/l	1.0	0.33	1
Naphthalene	1100	E	ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	100		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2250147
Report Date: 09/28/22

SAMPLE RESULTS

Lab ID: L2250147-01 D
 Client ID: CO26-PZM007
 Sample Location: COA

Date Collected: 09/14/22 15:00
 Date Received: 09/14/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 09/25/22 21:50
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Naphthalene	960		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	110		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2250147
Report Date: 09/28/22

SAMPLE RESULTS

Lab ID: L2250147-02
 Client ID: TRIP BLANK
 Sample Location: COA

Date Collected: 09/14/22 00:00
 Date Received: 09/14/22
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 09/22/22 12:20
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	113		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2250147
Report Date: 09/28/22

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260C
Analytical Date: 09/22/22 11:55
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1691092-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	114		70-130

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2250147
Report Date: 09/28/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/25/22 14:29
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1692538-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2250147
Report Date: 09/28/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1691092-3 WG1691092-4								
Benzene	120		120		70-130	0		20
Toluene	110		100		70-130	10		20
Ethylbenzene	120		110		70-130	9		20
p/m-Xylene	110		110		70-130	0		20
o-Xylene	110		105		70-130	5		20
Naphthalene	84		89		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		100		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	96		95		70-130
Dibromofluoromethane	109		107		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA-GW

Project Number: 20010210

Lab Number: L2250147

Report Date: 09/28/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1692538-3 WG1692538-4								
Benzene	99		100		70-130	1		20
Toluene	97		100		70-130	3		20
Ethylbenzene	96		98		70-130	2		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	90		95		70-130	5		20
Naphthalene	88		96		70-130	9		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		105		70-130
Toluene-d8	102		103		70-130
4-Bromofluorobenzene	96		95		70-130
Dibromofluoromethane	104		104		70-130

Project Name: COA-GW**Lab Number:** L2250147**Project Number:** 20010210**Report Date:** 09/28/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

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

A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2250147-01A	Vial HCl preserved	A	NA		2.6	Y	Absent		PA-8260(14)
L2250147-01B	Vial HCl preserved	A	NA		2.6	Y	Absent		PA-8260(14)
L2250147-01C	Vial HCl preserved	A	NA		2.6	Y	Absent		PA-8260(14)
L2250147-02A	Vial HCl preserved	A	NA		2.6	Y	Absent		PA-8260(14)
L2250147-02B	Vial HCl preserved	A	NA		2.6	Y	Absent		PA-8260(14)

Project Name: COA-GW
Project Number: 20010210

Lab Number: L2250147
Report Date: 09/28/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2250147
Report Date: 09/28/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2250147
Report Date: 09/28/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: COA-GW
Project Number: 20010210

Lab Number: L2250147
Report Date: 09/28/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



ANALYTICAL REPORT

Lab Number:	L2267159
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA GW
Project Number:	21010210
Report Date:	12/13/22

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

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



Project Name: COA GW
Project Number: 21010210

Lab Number: L2267159
Report Date: 12/13/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2267159-01	CO26-PZM007	WATER	Not Specified	11/30/22 11:40	11/30/22
L2267159-02	CO58-PZM001	WATER	Not Specified	11/30/22 14:00	11/30/22
L2267159-03	CO57-PZP002	WATER	Not Specified	11/30/22 15:15	11/30/22
L2267159-04	TB-WT-01	WATER	Not Specified	11/30/22 00:00	11/30/22

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267159
Report Date: 12/13/22

Case Narrative

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

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

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

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

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

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

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267159
Report Date: 12/13/22

Case Narrative (continued)

Report Submission

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

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

Authorized Signature:  Kelly O'Neill

Title: Technical Director/Representative

Date: 12/13/22

ORGANICS

VOLATILES

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267159
Report Date: 12/13/22

SAMPLE RESULTS

Lab ID: L2267159-01 D
 Client ID: CO26-PZM007
 Sample Location: Not Specified

Date Collected: 11/30/22 11:40
 Date Received: 11/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/06/22 19:23
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	210		ug/l	5.0	1.6	10
Toluene	93		ug/l	7.5	2.0	10
Ethylbenzene	6.1		ug/l	5.0	1.7	10
p/m-Xylene	98		ug/l	10	3.3	10
o-Xylene	40		ug/l	10	3.9	10
Xylenes, Total	140		ug/l	10	3.3	10
Naphthalene	1400		ug/l	10	2.2	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	106		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267159
Report Date: 12/13/22

SAMPLE RESULTS

Lab ID: L2267159-02 D
 Client ID: CO58-PZM001
 Sample Location: Not Specified

Date Collected: 11/30/22 14:00
 Date Received: 11/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/06/22 19:04
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	190		ug/l	5.0	1.6	10
Toluene	69		ug/l	7.5	2.0	10
Ethylbenzene	8.0		ug/l	5.0	1.7	10
p/m-Xylene	99		ug/l	10	3.3	10
o-Xylene	45		ug/l	10	3.9	10
Xylenes, Total	140		ug/l	10	3.3	10
Naphthalene	1600		ug/l	10	2.2	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	110		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267159
Report Date: 12/13/22

SAMPLE RESULTS

Lab ID: L2267159-03
 Client ID: CO57-PZP002
 Sample Location: Not Specified

Date Collected: 11/30/22 15:15
 Date Received: 11/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/06/22 18:44
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	111		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267159
Report Date: 12/13/22

SAMPLE RESULTS

Lab ID: L2267159-04
 Client ID: TB-WT-01
 Sample Location: Not Specified

Date Collected: 11/30/22 00:00
 Date Received: 11/30/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/06/22 18:25
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	107		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267159
Report Date: 12/13/22

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260D
Analytical Date: 12/06/22 17:08
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1720224-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	113		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267159
Report Date: 12/13/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1720224-3 WG1720224-4								
Benzene	120		120		70-130	0		20
Toluene	120		110		70-130	9		20
Ethylbenzene	120		110		70-130	9		20
p/m-Xylene	115		115		70-130	0		20
o-Xylene	110		110		70-130	0		20
Naphthalene	89		92		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		98		70-130
Toluene-d8	102		100		70-130
4-Bromofluorobenzene	108		106		70-130
Dibromofluoromethane	95		96		70-130

Project Name: COA GW**Lab Number:** L2267159**Project Number:** 21010210**Report Date:** 12/13/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2267159-01A	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)
L2267159-01B	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)
L2267159-01C	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)
L2267159-02A	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)
L2267159-02B	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)
L2267159-02C	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)
L2267159-03A	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)
L2267159-03B	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)
L2267159-03C	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)
L2267159-04A	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)
L2267159-04B	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)
L2267159-04C	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)
L2267159-04D	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267159
Report Date: 12/13/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 21010210

Lab Number: L2267159
Report Date: 12/13/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 21010210

Lab Number: L2267159
Report Date: 12/13/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 21010210

Lab Number: L2267159
Report Date: 12/13/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: TPA

Address:

Phone:

Fax:

Email: skabis@armgroup.net

These samples have been previously analyzed by Alpha

Project Information

Project Name: COA GLW

Project Location:

Project #: 21070210

Project Manager: Bob Twarkowski

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: _____ Time: _____

Date Rec'd in Lab: 11/30/22

Report Information - Data Deliverables

FAX EMAIL

ADEx Add'l Deliverables

ALPHA Job #: 12267159

Billing Information

Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program _____ Criteria _____

Other Project Specific Requirements/Comments/Detection Limits:

pH values of all samples greater than 10 at time of sampling

ANALYSIS <i>Naphthalene 8260</i> <i>BTEX 8260</i>	SAMPLE HANDLING Filtration _____ <input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below)	TOTAL # BOTTLES 3 3 3 4
	Sample Specific Comments	

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials					Sample Specific Comments	
		Date	Time								
<u>67159-01</u>	<u>C026-PZM007</u>	<u>11/30/22</u>	<u>1140</u>	<u>GW</u>	<u>LEP</u>	<u>X</u>	<u>X</u>			<u>pH > 10 when sampled</u>	<u>3</u>
<u>-02</u>	<u>C058-PZM001</u>	<u>11/30/22</u>	<u>1400</u>	<u>GW</u>	<u>LEP</u>	<u>X</u>	<u>X</u>			<u>pH > 10 when sampled</u>	<u>3</u>
<u>-03</u>	<u>C057-PZP002</u>	<u>11/30/22</u>	<u>1515</u>	<u>GW</u>	<u>LEP</u>	<u>X</u>	<u>X</u>			<u>pH > 10 when sampled</u>	<u>3</u>
<u>-04</u>	<u>TB-WT-01</u>	<u>11/30/22</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>X</u>	<u>X</u>				<u>4</u>

Relinquished By: <u>[Signature]</u> / ARM <u>D. Robinson AAL</u> <u>[Signature]</u> / ALL		Date/Time: <u>11/30/22 1635</u> <u>11/30/22 1835</u> <u>11/30/22 1835</u>		Received By: <u>D. Robinson AAL</u> <u>[Signature]</u> / ALL <u>[Signature]</u> / ALL		Date/Time: <u>11/30/22 1635</u> <u>11/30/22 1835</u> <u>11-30-22 2140</u>	
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Container Type: V V
Preservative: B B

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



ANALYTICAL REPORT

Lab Number:	L2267499
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA GW
Project Number:	21010210
Report Date:	12/08/22

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

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

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



Project Name: COA GW
Project Number: 21010210

Lab Number: L2267499
Report Date: 12/08/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2267499-01	CO24-PZM007	WATER	Not Specified	12/01/22 13:05	12/01/22
L2267499-02	CO23-PZM008	WATER	Not Specified	12/01/22 13:55	12/01/22
L2267499-03	CO59-PZP002	WATER	Not Specified	12/01/22 15:00	12/01/22
L2267499-04	TB-WT-2	WATER	Not Specified	12/01/22 00:00	12/01/22

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267499
Report Date: 12/08/22

Case Narrative

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

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

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

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

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

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

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267499
Report Date: 12/08/22

Case Narrative (continued)

Report Submission

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

Sample Receipt

L2267499-03: The sample identified as "CO59-PZM001" on the chain of custody was identified as "CO59-PZP002" on the container label. At the client's request, the sample is reported as "CO59-PZP002".

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

Authorized Signature:

 Caitlin Walukevich

Title: Technical Director/Representative

Date: 12/08/22

ORGANICS

VOLATILES

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267499
Report Date: 12/08/22

SAMPLE RESULTS

Lab ID: L2267499-01 D
 Client ID: CO24-PZM007
 Sample Location: Not Specified

Date Collected: 12/01/22 13:05
 Date Received: 12/01/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/08/22 00:16
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	5.2	J	ug/l	10	3.2	20
Toluene	ND		ug/l	15	4.1	20
Ethylbenzene	ND		ug/l	10	3.3	20
p/m-Xylene	ND		ug/l	20	6.6	20
o-Xylene	ND		ug/l	20	7.8	20
Xylenes, Total	ND		ug/l	20	6.6	20
Naphthalene	2700		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	113		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267499
Report Date: 12/08/22

SAMPLE RESULTS

Lab ID: L2267499-02 D
 Client ID: CO23-PZM008
 Sample Location: Not Specified

Date Collected: 12/01/22 13:55
 Date Received: 12/01/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/07/22 23:56
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	580		ug/l	12	4.0	25
Toluene	310		ug/l	19	5.1	25
Ethylbenzene	27		ug/l	12	4.2	25
p/m-Xylene	340		ug/l	25	8.3	25
o-Xylene	140		ug/l	25	9.8	25
Xylenes, Total	480		ug/l	25	8.3	25
Naphthalene	4500		ug/l	25	5.4	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	107		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267499
Report Date: 12/08/22

SAMPLE RESULTS

Lab ID: L2267499-03
 Client ID: CO59-PZP002
 Sample Location: Not Specified

Date Collected: 12/01/22 15:00
 Date Received: 12/01/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/07/22 23:36
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	13		ug/l	0.50	0.16	1
Toluene	3.4		ug/l	0.75	0.20	1
Ethylbenzene	0.62		ug/l	0.50	0.17	1
p/m-Xylene	6.6		ug/l	1.0	0.33	1
o-Xylene	3.0		ug/l	1.0	0.39	1
Xylenes, Total	9.6		ug/l	1.0	0.33	1
Naphthalene	58		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	111		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267499
Report Date: 12/08/22

SAMPLE RESULTS

Lab ID: L2267499-04
 Client ID: TB-WT-2
 Sample Location: Not Specified

Date Collected: 12/01/22 00:00
 Date Received: 12/01/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/07/22 23:16
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	110		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267499
Report Date: 12/08/22

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260D
Analytical Date: 12/07/22 19:15
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1720722-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	107		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267499
Report Date: 12/08/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1720722-3 WG1720722-4								
Benzene	100		100		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	99		100		70-130	1		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
Naphthalene	98		100		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		99		70-130
Toluene-d8	103		104		70-130
4-Bromofluorobenzene	102		103		70-130
Dibromofluoromethane	99		97		70-130

Project Name: COA GW**Lab Number:** L2267499**Project Number:** 21010210**Report Date:** 12/08/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2267499-01A	Vial HCl preserved	A	NA		2.5	Y	Absent		PA-8260(14)
L2267499-01B	Vial HCl preserved	A	NA		2.5	Y	Absent		PA-8260(14)
L2267499-01C	Vial HCl preserved	A	NA		2.5	Y	Absent		PA-8260(14)
L2267499-02A	Vial HCl preserved	A	NA		2.5	Y	Absent		PA-8260(14)
L2267499-02B	Vial HCl preserved	A	NA		2.5	Y	Absent		PA-8260(14)
L2267499-02C	Vial HCl preserved	A	NA		2.5	Y	Absent		PA-8260(14)
L2267499-03A	Vial HCl preserved	A	NA		2.5	Y	Absent		PA-8260(14)
L2267499-03B	Vial HCl preserved	A	NA		2.5	Y	Absent		PA-8260(14)
L2267499-03C	Vial HCl preserved	A	NA		2.5	Y	Absent		PA-8260(14)
L2267499-04A	Vial HCl preserved	A	NA		2.5	Y	Absent		PA-8260(14)
L2267499-04B	Vial HCl preserved	A	NA		2.5	Y	Absent		PA-8260(14)
L2267499-04C	Vial HCl preserved	A	NA		2.5	Y	Absent		PA-8260(14)
L2267499-04D	Vial HCl preserved	A	NA		2.5	Y	Absent		PA-8260(14)

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267499
Report Date: 12/08/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 21010210

Lab Number: L2267499
Report Date: 12/08/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 21010210

Lab Number: L2267499
Report Date: 12/08/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267499
Report Date: 12/08/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Date Rec'd in Lab: 12/2/22

ALPHA Job #: 12267499

Project Information

Project Name: COA GW

Project Location:

Project #: 21010210

Project Manager: Bob Turkowski

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: _____ Time: _____

Report Information - Data Deliverables

FAX EMAIL

ADEx Add'l Deliverables

Billing Information

Same as Client info PO #: _____

Client Information

Client: TPA

Address:

Phone:

Fax:

Email: skabis@armgroup.net

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

pH of all samples > 9 at time of sampling

ANALYSIS	Naphthalene 8260	BTEx 8260											TOTAL # BOTTLES
	<p>SAMPLE HANDLING</p> <p>Filtration _____</p> <p><input type="checkbox"/> Done</p> <p><input type="checkbox"/> Not needed</p> <p><input type="checkbox"/> Lab to do</p> <p>Preservation</p> <p><input type="checkbox"/> Lab to do</p> <p>(Please specify below)</p>												

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS										Sample Specific Comments	TOTAL # BOTTLES				
		Date	Time																		
67499-01	CO24-PZM007	12/01/22	1305	GW	LEP	X	X													pH ≈ 9.63	3
<u>02</u>	CO23-PZM008	12/01/22	1355	GW	LEP	X	X													pH ≈ 11.14	3
<u>03</u>	CO59-PZM001	12/01/22	1500	GW	LEP	X	X													pH ≈ 9.32	3
<u>04</u>	TB-WT-2	12/01/22	—	—	—	X	X														4

Container Type

Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
<u>[Signature]</u>	12/01/22 1600	<u>[Signature]</u>	12/1/22 1615
<u>[Signature]</u>	12-1-23 1530	<u>[Signature]</u>	12/1/23 1530
<u>[Signature]</u>	12/1/23 2100	<u>[Signature]</u>	12-1-23 2100

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



ANALYTICAL REPORT

Lab Number:	L2267839
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA GW
Project Number:	21010210
Report Date:	12/15/22

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

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

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



Project Name: COA GW
Project Number: 21010210

Lab Number: L2267839
Report Date: 12/15/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2267839-01	CO55-PZM000	WATER	Not Specified	12/02/22 11:40	12/02/22
L2267839-02	CO56-PZP001	WATER	Not Specified	12/02/22 12:40	12/02/22
L2267839-03	TB-WT-3	WATER	Not Specified	12/02/22 00:00	12/02/22

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267839
Report Date: 12/15/22

Case Narrative

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

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

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

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

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

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

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267839
Report Date: 12/15/22

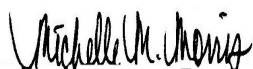
Case Narrative (continued)

Report Submission

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

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

Authorized Signature:



Michelle M. Morris

Title: Technical Director/Representative

Date: 12/15/22

ORGANICS

VOLATILES

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267839
Report Date: 12/15/22

SAMPLE RESULTS

Lab ID: L2267839-01
 Client ID: CO55-PZM000
 Sample Location: Not Specified

Date Collected: 12/02/22 11:40
 Date Received: 12/02/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/07/22 11:45
 Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	0.17	J	ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	0.49	J	ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	115		70-130
Dibromofluoromethane	102		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267839
Report Date: 12/15/22

SAMPLE RESULTS

Lab ID: L2267839-02 D
 Client ID: CO56-PZP001
 Sample Location: Not Specified

Date Collected: 12/02/22 12:40
 Date Received: 12/02/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/07/22 12:04
 Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	360		ug/l	10	3.2	20
Toluene	75		ug/l	15	4.1	20
Ethylbenzene	11		ug/l	10	3.3	20
p/m-Xylene	190		ug/l	20	6.6	20
o-Xylene	73		ug/l	20	7.8	20
Xylenes, Total	260		ug/l	20	6.6	20
Naphthalene	3000		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	99		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267839
Report Date: 12/15/22

SAMPLE RESULTS

Lab ID: L2267839-03
 Client ID: TB-WT-3
 Sample Location: Not Specified

Date Collected: 12/02/22 00:00
 Date Received: 12/02/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/07/22 11:25
 Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	104		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267839
Report Date: 12/15/22

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260D
Analytical Date: 12/07/22 10:46
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1720953-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	106		70-130

Lab Control Sample Analysis Batch Quality Control

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267839
Report Date: 12/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1720953-3 WG1720953-4								
Benzene	120		120		70-130	0		20
Toluene	110		120		70-130	9		20
Ethylbenzene	110		120		70-130	9		20
p/m-Xylene	115		120		70-130	4		20
o-Xylene	110		115		70-130	4		20
Naphthalene	96		100		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		91		70-130
Toluene-d8	101		104		70-130
4-Bromofluorobenzene	108		110		70-130
Dibromofluoromethane	91		91		70-130

Project Name: COA GW**Lab Number:** L2267839**Project Number:** 21010210**Report Date:** 12/15/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

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

A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2267839-01A	Vial unpreserved	A	NA		2.1	Y	Absent		PA-8260(7)
L2267839-01B	Vial unpreserved	A	NA		2.1	Y	Absent		PA-8260(7)
L2267839-01C	Vial unpreserved	A	NA		2.1	Y	Absent		PA-8260(7)
L2267839-02A	Vial unpreserved	A	NA		2.1	Y	Absent		PA-8260(7)
L2267839-02B	Vial unpreserved	A	NA		2.1	Y	Absent		PA-8260(7)
L2267839-02C	Vial unpreserved	A	NA		2.1	Y	Absent		PA-8260(7)
L2267839-03A	Vial unpreserved	A	NA		2.1	Y	Absent		PA-8260(7)
L2267839-03B	Vial unpreserved	A	NA		2.1	Y	Absent		PA-8260(7)
L2267839-03C	Vial unpreserved	A	NA		2.1	Y	Absent		PA-8260(7)
L2267839-03D	Vial unpreserved	A	NA		2.1	Y	Absent		PA-8260(7)

Project Name: COA GW
Project Number: 21010210

Lab Number: L2267839
Report Date: 12/15/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 21010210

Lab Number: L2267839
Report Date: 12/15/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 21010210

Lab Number: L2267839
Report Date: 12/15/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 21010210

Lab Number: L2267839
Report Date: 12/15/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
 TEL: 508-898-9220
 FAX: 508-898-9193

MANSFIELD, MA
 TEL: 508-822-9300
 FAX: 508-822-3288

Project Information

Project Name: COA GW

Project Location:

Project #: 21016210

Project Manager:

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: _____ Time: _____

Date Rec'd in Lab: 12/31/22

ALPHA Job #: 12267839

Report Information - Data Deliverables

FAX EMAIL

ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: TPA

Address:

Phone:

Fax:

Email: skabis@armgroup.net

These samples have been previously analyzed by Alpha

Regulatory Requirements/Report Limits

State /Fed Program _____ Criteria _____

Other Project Specific Requirements/Comments/Detection Limits:

pH of samples > 10 at time of sampling

ANALYSIS	Naphthalene 8260	BTX 8260											<p>SAMPLE HANDLING</p> <p>Filtration _____</p> <p><input type="checkbox"/> Done</p> <p><input type="checkbox"/> Not needed</p> <p><input type="checkbox"/> Lab to do</p> <p>Preservation</p> <p><input type="checkbox"/> Lab to do</p> <p>(Please specify below)</p>	TOTAL # BOTTLES
			Sample Specific Comments											

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials											Sample Specific Comments	TOTAL # BOTTLES		
		Date	Time																
<u>67839-01</u>	<u>COSS-PZM000</u>	<u>12/02/22</u>	<u>1140</u>	<u>GW</u>	<u>LEP</u>	<u>X</u>	<u>X</u>											<u>ph 2 11.21</u>	<u>3</u>
<u>02</u>	<u>CO56-PZP001</u>	<u>12/02/22</u>	<u>1240</u>	<u>GW</u>	<u>LEP</u>	<u>X</u>	<u>X</u>											<u>ph 2 11.39</u>	<u>3</u>
<u>03</u>	<u>TB-WT-3</u>	<u>12/01/22</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>X</u>	<u>X</u>												<u>4</u>

Container Type	<u>V</u>	<u>V</u>
Preservative	<u>B</u>	<u>B</u>

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

Relinquished By:	Date/Time	Received By:	Date/Time
<u>ARM</u>	<u>12/02/22 1330</u>	<u>SKABIS</u>	<u>12-02-22 1610</u>
<u>ARM</u>	<u>12-2-22</u>	<u>SKABIS</u>	<u>12-2-22 1912</u>
<u>ARM</u>	<u>12/2/22</u>	<u>SKABIS</u>	<u>12-2-22 2030</u>



ANALYTICAL REPORT

Lab Number:	L2268457
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA GW
Project Number:	21010210
Report Date:	12/12/22

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

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



Project Name: COA GW
Project Number: 21010210

Lab Number: L2268457
Report Date: 12/12/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2268457-01	CO30-PZM015	WATER	Not Specified	12/06/22 12:08	12/06/22
L2268457-02	CO195-MWS	WATER	Not Specified	12/06/22 13:55	12/06/22
L2268457-03	CO36-PZM043	WATER	Not Specified	12/06/22 15:40	12/06/22
L2268457-04	TB-WT-4	WATER	Not Specified	12/06/22 00:00	12/06/22

Project Name: COA GW
Project Number: 21010210

Lab Number: L2268457
Report Date: 12/12/22

Case Narrative

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

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

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

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

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

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

Project Name: COA GW
Project Number: 21010210

Lab Number: L2268457
Report Date: 12/12/22

Case Narrative (continued)

Report Submission

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

Sample Receipt

L2268457-01: The collection date and time on the chain of custody was 06-DEC-22 12:08; however, the collection date and time on the container label was 06-DEC-22 13:08. At the client's request, the collection date and time is reported as 06-DEC-22 12:08.

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

Authorized Signature:



Kelly O'Neill

Title: Technical Director/Representative

Date: 12/12/22

ORGANICS

VOLATILES

Project Name: COA GW
Project Number: 21010210

Lab Number: L2268457
Report Date: 12/12/22

SAMPLE RESULTS

Lab ID: L2268457-01 D
 Client ID: CO30-PZM015
 Sample Location: Not Specified

Date Collected: 12/06/22 12:08
 Date Received: 12/06/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/10/22 01:28
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	62000		ug/l	250	80.	500
Toluene	4400		ug/l	380	100	500
Ethylbenzene	110	J	ug/l	250	84.	500
p/m-Xylene	860		ug/l	500	170	500
o-Xylene	400	J	ug/l	500	200	500
Xylenes, Total	1300	J	ug/l	500	170	500
Naphthalene	2000		ug/l	500	110	500

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	104		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2268457
Report Date: 12/12/22

SAMPLE RESULTS

Lab ID: L2268457-02 D
 Client ID: CO195-MWS
 Sample Location: Not Specified

Date Collected: 12/06/22 13:55
 Date Received: 12/06/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/10/22 01:08
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	41000		ug/l	200	64.	400
Toluene	3000		ug/l	300	81.	400
Ethylbenzene	ND		ug/l	200	67.	400
p/m-Xylene	540		ug/l	400	130	400
o-Xylene	240	J	ug/l	400	160	400
Xylenes, Total	780	J	ug/l	400	130	400
Naphthalene	1500		ug/l	400	86.	400

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	107		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2268457
Report Date: 12/12/22

SAMPLE RESULTS

Lab ID: L2268457-03 D
 Client ID: CO36-PZM043
 Sample Location: Not Specified

Date Collected: 12/06/22 15:40
 Date Received: 12/06/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/10/22 00:48
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	16000		ug/l	50	16.	100
Toluene	2200		ug/l	75	20.	100
Ethylbenzene	46	J	ug/l	50	17.	100
p/m-Xylene	460		ug/l	100	33.	100
o-Xylene	180		ug/l	100	39.	100
Xylenes, Total	640		ug/l	100	33.	100
Naphthalene	560		ug/l	100	22.	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	104		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2268457
Report Date: 12/12/22

SAMPLE RESULTS

Lab ID: L2268457-04
 Client ID: TB-WT-4
 Sample Location: Not Specified

Date Collected: 12/06/22 00:00
 Date Received: 12/06/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/10/22 00:27
 Analyst: MJV

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	118		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2268457
Report Date: 12/12/22

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8260D
Analytical Date: 12/09/22 18:47
Analyst: LAC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1722270-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	115		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA GW
Project Number: 21010210

Lab Number: L2268457
Report Date: 12/12/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1722270-3 WG1722270-4								
Benzene	100		100		70-130	0		20
Toluene	100		95		70-130	5		20
Ethylbenzene	100		93		70-130	7		20
p/m-Xylene	100		90		70-130	11		20
o-Xylene	95		90		70-130	5		20
Naphthalene	98		88		70-130	11		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	106		104		70-130
Toluene-d8	104		102		70-130
4-Bromofluorobenzene	104		102		70-130
Dibromofluoromethane	104		102		70-130

Project Name: COA GW
Project Number: 21010210

Serial_No:12122215:53
Lab Number: L2268457
Report Date: 12/12/22

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler **Custody Seal**
A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2268457-01A	Vial unpreserved	A	NA		3.6	Y	Absent		PA-8260(7)
L2268457-01B	Vial unpreserved	A	NA		3.6	Y	Absent		PA-8260(7)
L2268457-01C	Vial unpreserved	A	NA		3.6	Y	Absent		PA-8260(7)
L2268457-02A	Vial unpreserved	A	NA		3.6	Y	Absent		PA-8260(7)
L2268457-02B	Vial unpreserved	A	NA		3.6	Y	Absent		PA-8260(7)
L2268457-02C	Vial unpreserved	A	NA		3.6	Y	Absent		PA-8260(7)
L2268457-03A	Vial unpreserved	A	NA		3.6	Y	Absent		PA-8260(7)
L2268457-03B	Vial unpreserved	A	NA		3.6	Y	Absent		PA-8260(7)
L2268457-03C	Vial unpreserved	A	NA		3.6	Y	Absent		PA-8260(7)
L2268457-04A	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)
L2268457-04B	Vial HCl preserved	A	NA		3.6	Y	Absent		PA-8260(14)

Project Name: COA GW
Project Number: 21010210

Lab Number: L2268457
Report Date: 12/12/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
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Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
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Lab Number: L2268457
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Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: COA GW
Project Number: 21010210

Lab Number: L2268457
Report Date: 12/12/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: **COA - GW**
Project Location:
Project #: **21010210**
Project Manager: **BOB T.**
ALPHA Quote #:

Date Rec'd in Lab: **12/7/22**

ALPHA Job #: **222168457**

Report Information - Data Deliverables

FAX EMAIL
 ADEx Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: **TPA**

Address:

Phone:

Fax:

Email:

These samples have been previously analyzed by Alpha

Turn-Around Time

Standard RUSH (only confirmed if pre-approved!)

Date Due: Time:

Other Project Specific Requirements/Comments/Detection Limits:

All samples had pH ABOVE 11.00 AT Time of Sample

Regulatory Requirements/Report Limits

State/Fed Program Criteria

ANALYSIS	SAMPLE HANDLING		TOTAL # BOTTLES
	Filtration	Preservation	
BTEX 8260 Naphthalene 8260	<input type="checkbox"/> Done	<input type="checkbox"/> Lab to do	3 3 3 2
	<input type="checkbox"/> Not needed	<input type="checkbox"/> Lab to do	
	(Please specify below)		
	Sample Specific Comments		

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials													
		Date	Time															
68457-01	CO30-PCM015	12/6/22	1208	GW	TPA	X	X											
-02	CO195-MWS	↓	1355	GW	TPA	X	X											
-03	CO36-PCM043	↓	1540	GW	TPA	X	X											
-04	TB-WT-4		-	-	TPA	X	X											

All samples ABOVE pH of 11.00

g/anal
12/7/22
0135

Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	12/6/22 1640	<i>[Signature]</i>	12-16-22

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



ANALYTICAL REPORT

Lab Number:	L2269448
Client:	Tradepoint Atlantic 1600 Sparrows Point Boulevard Baltimore, MD 21219
ATTN:	Robert Tworkowski
Phone:	(443) 649-5073
Project Name:	COA GW
Project Number:	21010210
Report Date:	12/15/22

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

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

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



Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2269448-01	CO198-MWS	WATER	Not Specified	12/09/22 10:15	12/09/22
L2269448-02	CO194-MWS	WATER	Not Specified	12/09/22 11:11	12/09/22
L2269448-03	CO201-MWS	WATER	Not Specified	12/09/22 12:05	12/09/22
L2269448-04	CO196-MWS	WATER	Not Specified	12/09/22 13:15	12/09/22
L2269448-05	TB-WT-7	WATER	Not Specified	12/09/22 00:00	12/09/22

Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

Case Narrative

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

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

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

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

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

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

Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

Case Narrative (continued)

Report Submission

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

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

Authorized Signature:  Kelly O'Neill

Title: Technical Director/Representative

Date: 12/15/22

ORGANICS

VOLATILES

Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

SAMPLE RESULTS

Lab ID: L2269448-01 D
 Client ID: CO198-MWS
 Sample Location: Not Specified

Date Collected: 12/09/22 10:15
 Date Received: 12/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/13/22 14:53
 Analyst: KJD

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

Volatile Organics by GC/MS - Westborough Lab						
Benzene	280		ug/l	5.0	1.6	10
Toluene	62		ug/l	7.5	2.0	10
Ethylbenzene	2.3	J	ug/l	5.0	1.7	10
p/m-Xylene	24		ug/l	10	3.3	10
o-Xylene	12		ug/l	10	3.9	10
Xylenes, Total	36		ug/l	10	3.3	10
Naphthalene	2000		ug/l	10	2.2	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	80		70-130
Dibromofluoromethane	112		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

SAMPLE RESULTS

Lab ID: L2269448-02 D
 Client ID: CO194-MWS
 Sample Location: Not Specified

Date Collected: 12/09/22 11:11
 Date Received: 12/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/13/22 15:13
 Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	740		ug/l	10	3.2	20
Toluene	120		ug/l	15	4.1	20
Ethylbenzene	4.1	J	ug/l	10	3.3	20
p/m-Xylene	42		ug/l	20	6.6	20
o-Xylene	23		ug/l	20	7.8	20
Xylenes, Total	65		ug/l	20	6.6	20
Naphthalene	2900		ug/l	20	4.3	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	82		70-130
Dibromofluoromethane	104		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

SAMPLE RESULTS

Lab ID: L2269448-03 D
 Client ID: CO201-MWS
 Sample Location: Not Specified

Date Collected: 12/09/22 12:05
 Date Received: 12/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/13/22 14:11
 Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	1800		ug/l	5.0	1.6	10
Toluene	120		ug/l	7.5	2.0	10
Ethylbenzene	4.1	J	ug/l	5.0	1.7	10
p/m-Xylene	47		ug/l	10	3.3	10
o-Xylene	23		ug/l	10	3.9	10
Xylenes, Total	70		ug/l	10	3.3	10
Naphthalene	240		ug/l	10	2.2	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	83		70-130
Dibromofluoromethane	101		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

SAMPLE RESULTS

Lab ID: L2269448-04 D
 Client ID: CO196-MWS
 Sample Location: Not Specified

Date Collected: 12/09/22 13:15
 Date Received: 12/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/13/22 14:32
 Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab						
Benzene	7300		ug/l	25	8.0	50
Toluene	500		ug/l	38	10.	50
Ethylbenzene	15	J	ug/l	25	8.4	50
p/m-Xylene	110		ug/l	50	17.	50
o-Xylene	54		ug/l	50	20.	50
Xylenes, Total	160		ug/l	50	17.	50
Naphthalene	460		ug/l	50	11.	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	99		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

SAMPLE RESULTS

Lab ID: L2269448-05
 Client ID: TB-WT-7
 Sample Location: Not Specified

Date Collected: 12/09/22 00:00
 Date Received: 12/09/22
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260D
 Analytical Date: 12/13/22 13:50
 Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
Naphthalene	ND		ug/l	1.0	0.22	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	83		70-130
Dibromofluoromethane	115		70-130

Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 12/13/22 09:42
Analyst: PID

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1722884-5					
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
Naphthalene	ND		ug/l	1.0	0.22

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	124		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1722884-3 WG1722884-4								
Benzene	110		110		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	110		110		70-130	0		20
p/m-Xylene	115		115		70-130	0		20
o-Xylene	115		115		70-130	0		20
Naphthalene	98		99		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	104		106		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	88		88		70-130
Dibromofluoromethane	113		112		70-130

Project Name: COA GW**Lab Number:** L2269448**Project Number:** 21010210**Report Date:** 12/15/22**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2269448-01A	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-01B	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-01C	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-02A	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-02B	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-02C	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-03A	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-03B	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-03C	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-04A	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-04B	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-04C	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-05A	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-05B	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-05C	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)
L2269448-05D	Vial HCl preserved	A	NA		2.0	Y	Absent		PA-8260(14)

Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

Data Qualifiers

Identified Compounds (TICs).

- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers



Project Name: COA GW
Project Number: 21010210

Lab Number: L2269448
Report Date: 12/15/22

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625/625.1: alpha-Terpineol

EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D/8270E: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

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

Mansfield Facility

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

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

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: **COA GW**
Project Location:
Project #: **21010210**
Project Manager: **BOB T.**
ALPHA Quote #:

Date Rec'd in Lab: **12/10/22**

ALPHA Job #: **2269448**

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: **TPA**
Address:

Phone:

Fax:

Email:

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

All samples have pH > 10.00

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: Time:

Regulatory Requirements/Report Limits

State /Fed Program Criteria

ANALYSIS	TOTAL # BOTTLES	SAMPLE HANDLING	
		Filtration	Preservation
8260		<input type="checkbox"/> Done	<input type="checkbox"/> Lab to do
8260		<input type="checkbox"/> Not needed	<input type="checkbox"/> Lab to do
8260		<input type="checkbox"/> Lab to do	<input type="checkbox"/> Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS	TOTAL # BOTTLES
		Date	Time				
64448-01	CO 198-MWS	12/9/22	1015	GW	JSP	8260	3
-02	CO 194-MWS	12/9/22	1111	GW	JSP	8260	3
-03	CO 201-MWS	12/9/22	1205	GW	JSP	8260	3
-04	CO 196-MWS	12/9/22	1315	GW	JSP	8260	3
-05	TB-Wt-7					8260	4

Container Type V V		Preservative B B	
Relinquished By: [Signature]	Date/Time: 12/9/22 1450	Received By: [Signature]	Date/Time: 12/9/22 1450
[Signature]	12/9/22 1705	[Signature]	12/9/22
[Signature]	12/9/22 2100	[Signature]	12/9/22 2100

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

10 January 2022

Bob Tworkowski
Tradepoint Atlantic
1600 Sparrows Point Boulevard
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 01/04/22 09:29.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
01/10/22 12:51

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 1 SVE INF		2010401-01	Vapor	01/04/22 08:10	01/04/22 09:29



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
01/10/22 12:51

CELL 1 SVE INF

2010401-01 (Vapor)
Sample Date: 01/04/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	4.00	4.00	0.4	01/04/22	01/04/22 14:39	AS
tert-Amyl alcohol (TAA)	ND		ug/L	8.00	8.00	0.4	01/04/22	01/04/22 14:39	AS
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
tert-Amyl methyl ether (TAME)	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Benzene	37.0		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Bromobenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Bromochloromethane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Bromodichloromethane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Bromoform	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Bromomethane	ND		ug/L	2.00	2.00	0.4	01/04/22	01/04/22 14:39	AS
tert-Butanol (TBA)	ND		ug/L	6.00	6.00	0.4	01/04/22	01/04/22 14:39	AS
2-Butanone (MEK)	ND		ug/L	4.00	4.00	0.4	01/04/22	01/04/22 14:39	AS
n-Butylbenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
sec-Butylbenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
tert-Butylbenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Carbon disulfide	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Carbon tetrachloride	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Chlorobenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Chloroethane	ND		ug/L	2.00	2.00	0.4	01/04/22	01/04/22 14:39	AS
Chloroform	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Chloromethane	ND		ug/L	2.00	2.00	0.4	01/04/22	01/04/22 14:39	AS
2-Chlorotoluene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
4-Chlorotoluene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,2-Dibromo-3-chloropropane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Dibromochloromethane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,2-Dibromoethane (EDB)	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Dibromomethane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,2-Dichlorobenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,3-Dichlorobenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,4-Dichlorobenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Dichlorodifluoromethane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,1-Dichloroethane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,2-Dichloroethane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
01/10/22 12:51

CELL 1 SVE INF

2010401-01 (Vapor)
Sample Date: 01/04/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
cis-1,2-Dichloroethene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
trans-1,2-Dichloroethene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Dichlorofluoromethane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,2-Dichloropropane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,3-Dichloropropane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
2,2-Dichloropropane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,1-Dichloropropene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
cis-1,3-Dichloropropene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
trans-1,3-Dichloropropene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Diisopropyl ether (DIPE)	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Ethylbenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Hexachlorobutadiene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
2-Hexanone	ND		ug/L	4.00	4.00	0.4	01/04/22	01/04/22 14:39	AS
Isopropylbenzene (Cumene)	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
4-Isopropyltoluene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
4-Methyl-2-pentanone	ND		ug/L	4.00	4.00	0.4	01/04/22	01/04/22 14:39	AS
Methylene chloride	ND		ug/L	4.00	4.00	0.4	01/04/22	01/04/22 14:39	AS
Naphthalene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
n-Propylbenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Styrene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,1,1,2-Tetrachloroethane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,1,2,2-Tetrachloroethane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Tetrachloroethene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Toluene	0.84		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,2,3-Trichlorobenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,2,4-Trichlorobenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,1,1-Trichloroethane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,1,2-Trichloroethane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Trichloroethene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
01/10/22 12:51

CELL 1 SVE INF

2010401-01 (Vapor)
Sample Date: 01/04/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,2,4-Trimethylbenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
1,3,5-Trimethylbenzene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Vinyl chloride	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
o-Xylene	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
m- & p-Xylenes	ND		ug/L	0.80	0.40	0.4	01/04/22	01/04/22 14:39	AS
Surrogate: 1,2-Dichloroethane-d4		70-130		110 %	01/04/22		01/04/22 14:39		
Surrogate: Toluene-d8		75-120		99 %	01/04/22		01/04/22 14:39		
Surrogate: 4-Bromofluorobenzene		65-120		94 %	01/04/22		01/04/22 14:39		



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
01/10/22 12:51

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte

Vapor 8260 (Full List) Acetone	Vapor 8260 (Full List) tert-Amyl alcohol (TAA)
Vapor 8260 (Full List) tert-Amyl ethyl ether (TAEE)	Vapor 8260 (Full List) tert-Amyl methyl ether (TAME)
Vapor 8260 (Full List) Benzene	Vapor 8260 (Full List) Bromobenzene
Vapor 8260 (Full List) Bromochloromethane	Vapor 8260 (Full List) Bromodichloromethane
Vapor 8260 (Full List) Bromoform	Vapor 8260 (Full List) Bromomethane
Vapor 8260 (Full List) tert-Butanol (TBA)	Vapor 8260 (Full List) 2-Butanone (MEK)
Vapor 8260 (Full List) n-Butylbenzene	Vapor 8260 (Full List) sec-Butylbenzene
Vapor 8260 (Full List) tert-Butylbenzene	Vapor 8260 (Full List) Carbon disulfide
Vapor 8260 (Full List) Carbon tetrachloride	Vapor 8260 (Full List) Chlorobenzene
Vapor 8260 (Full List) Chloroethane	Vapor 8260 (Full List) Chloroform
Vapor 8260 (Full List) Chloromethane	Vapor 8260 (Full List) 2-Chlorotoluene
Vapor 8260 (Full List) 4-Chlorotoluene	Vapor 8260 (Full List) 1,2-Dibromo-3-chloropropane
Vapor 8260 (Full List) Dibromochloromethane	Vapor 8260 (Full List) 1,2-Dibromoethane (EDB)
Vapor 8260 (Full List) Dibromomethane	Vapor 8260 (Full List) 1,2-Dichlorobenzene
Vapor 8260 (Full List) 1,3-Dichlorobenzene	Vapor 8260 (Full List) 1,4-Dichlorobenzene
Vapor 8260 (Full List) Dichlorodifluoromethane	Vapor 8260 (Full List) 1,1-Dichloroethane
Vapor 8260 (Full List) 1,2-Dichloroethane	Vapor 8260 (Full List) 1,1-Dichloroethene
Vapor 8260 (Full List) cis-1,2-Dichloroethene	Vapor 8260 (Full List) trans-1,2-Dichloroethene
Vapor 8260 (Full List) Dichlorofluoromethane	Vapor 8260 (Full List) 1,2-Dichloropropane
Vapor 8260 (Full List) 1,3-Dichloropropane	Vapor 8260 (Full List) 2,2-Dichloropropane
Vapor 8260 (Full List) 1,1-Dichloropropene	Vapor 8260 (Full List) cis-1,3-Dichloropropene
Vapor 8260 (Full List) trans-1,3-Dichloropropene	Vapor 8260 (Full List) Diisopropyl ether (DIPE)
Vapor 8260 (Full List) Ethyl tert-butyl ether (ETBE)	Vapor 8260 (Full List) Ethylbenzene
Vapor 8260 (Full List) Hexachlorobutadiene	Vapor 8260 (Full List) 2-Hexanone
Vapor 8260 (Full List) Isopropylbenzene (Cumene)	Vapor 8260 (Full List) 4-Isopropyltoluene
Vapor 8260 (Full List) Methyl tert-butyl ether (MTBE)	Vapor 8260 (Full List) 4-Methyl-2-pentanone
Vapor 8260 (Full List) Methylene chloride	Vapor 8260 (Full List) Naphthalene
Vapor 8260 (Full List) n-Propylbenzene	Vapor 8260 (Full List) Styrene
Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane	Vapor 8260 (Full List) 1,1,1,2,2-Tetrachloroethane
Vapor 8260 (Full List) Tetrachloroethene	Vapor 8260 (Full List) Toluene
Vapor 8260 (Full List) 1,2,3-Trichlorobenzene	Vapor 8260 (Full List) 1,2,4-Trichlorobenzene
Vapor 8260 (Full List) 1,1,1-Trichloroethane	Vapor 8260 (Full List) 1,1,2-Trichloroethane
Vapor 8260 (Full List) Trichloroethene	Vapor 8260 (Full List) Trichlorofluoromethane (Freon 11)

Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
01/10/22 12:51

Maryland Spectral Services

Matrix , Method , Analyte

Vapor | 8260 (Full List) | 1,2,3-Trichloropropane
Vapor | 8260 (Full List) | 1,3,5-Trimethylbenzene
Vapor | 8260 (Full List) | o-Xylene

Vapor | 8260 (Full List) | 1,2,4-Trimethylbenzene
Vapor | 8260 (Full List) | Vinyl chloride
Vapor | 8260 (Full List) | m- & p-Xylenes



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
01/10/22 12:51

Notes and Definitions

- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

Maryland Spectral Services, Inc.
1500 Caton Center Drive, Suite G
Baltimore, MD 21227
410-247-7600 • Fax 410-247-7602
reporting@mdspectral.com

Matrix Codes: NW (non-potable water), DW (drinking water), SV (soil vapor)

Preservative: _____ MSS Lab ID: 2010401-01

Field Notes

Analysis Requested

FULL SUITE VOCs +
NAPHTHALENE 8260

No. of Containers: 1

Company Address:
1600 Sparrows Point Blvd
Sparrows Point, MD 21219
Project Manager:
Bob Tworowski (443) 649-5073
Attention/Invoice:
ap@tradeointatlantic.com

Date: 1/4/22 0810
Time: 0810
DW: _____
Water: _____
Soil: _____
SV: _____

Company Name:
Tradeoint Atlantic
Project Name:
Sparrows Point IM
Sampler(s):
Guy Davis/ARM Group
(443) 610-0211

Field Sample ID

CELL 1 SVE INF

Received by: (Signature)

Date/Time

Relinquished by: (Signature)

Date/Time

Relinquished by: (Signature)

Date/Time

Received by: (Signature)

(Printed)

Received by Lab: (Signature)

Date/Time

Relinquished by: (Signature)

Date/Time

Relinquished by: (Signature)

Date/Time

Received by: (Signature)

(Printed)

Lab Use:

Temp: _____ °C

- Received on Ice
- Received same day

Sample Disposal:

- Return to Client
- Disposal by lab
- Archive for _____ days

Turn Around Time:

- Normal (7 day)
- 5 day
- 4 day
- 3 day
- Rush (2 day)
- Next Day
- Other: _____
- Specific Due Date: _____

Special Instructions/QC Requirements & Comments:

Please report to:
Bob Tworowski btworkowski@tradeointatlantic.com
Matt Newman mnewman@tradeointatlantic.com
Guy Davis GDavis@armgroup.net
Doug Hamilton DHamilton@armgroup.net

Delivery Method:

- Courier
- Client
- UPS
- FedEx
- USPS
- Other: _____

08 February 2022

Bob Tworkowski
Tradepoint Atlantic
1600 Sparrows Point Boulevard
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 02/02/22 09:50.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
02/08/22 09:43

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 1 SVE INF		2020201-01	Vapor	02/02/22 08:15	02/02/22 09:50



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
02/08/22 09:43

CELL 1 SVE INF

2020201-01 (Vapor)
Sample Date: 02/02/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatiles by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	02/02/22	02/02/22 15:23	AS
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	02/02/22	02/02/22 15:23	AS
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Benzene	5.40		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Bromobenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Bromoform	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Bromomethane	ND		ug/L	0.50	0.50	0.1	02/02/22	02/02/22 15:23	AS
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	02/02/22	02/02/22 15:23	AS
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	02/02/22	02/02/22 15:23	AS
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Chloroethane	ND		ug/L	0.50	0.50	0.1	02/02/22	02/02/22 15:23	AS
Chloroform	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Chloromethane	ND		ug/L	0.50	0.50	0.1	02/02/22	02/02/22 15:23	AS
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Dibromomethane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
02/08/22 09:43

CELL 1 SVE INF

2020201-01 (Vapor)
Sample Date: 02/02/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
2-Hexanone	ND		ug/L	1.00	1.00	0.1	02/02/22	02/02/22 15:23	AS
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	02/02/22	02/02/22 15:23	AS
Methylene chloride	ND		ug/L	1.00	1.00	0.1	02/02/22	02/02/22 15:23	AS
Naphthalene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Styrene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Toluene	0.38		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Trichloroethene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
02/08/22 09:43

CELL 1 SVE INF

2020201-01 (Vapor)
Sample Date: 02/02/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
o-Xylene	ND		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
m- & p-Xylenes	0.29		ug/L	0.20	0.10	0.1	02/02/22	02/02/22 15:23	AS
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>70-130</i>	<i>94 %</i>	<i>02/02/22</i>		<i>02/02/22 15:23</i>		
<i>Surrogate: Toluene-d8</i>			<i>75-120</i>	<i>97 %</i>	<i>02/02/22</i>		<i>02/02/22 15:23</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>65-120</i>	<i>93 %</i>	<i>02/02/22</i>		<i>02/02/22 15:23</i>		



Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
02/08/22 09:43

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte

Vapor 8260 (Full List) Acetone	Vapor 8260 (Full List) tert-Amyl alcohol (TAA)
Vapor 8260 (Full List) tert-Amyl ethyl ether (TAEE)	Vapor 8260 (Full List) tert-Amyl methyl ether (TAME)
Vapor 8260 (Full List) Benzene	Vapor 8260 (Full List) Bromobenzene
Vapor 8260 (Full List) Bromochloromethane	Vapor 8260 (Full List) Bromodichloromethane
Vapor 8260 (Full List) Bromoform	Vapor 8260 (Full List) Bromomethane
Vapor 8260 (Full List) tert-Butanol (TBA)	Vapor 8260 (Full List) 2-Butanone (MEK)
Vapor 8260 (Full List) n-Butylbenzene	Vapor 8260 (Full List) sec-Butylbenzene
Vapor 8260 (Full List) tert-Butylbenzene	Vapor 8260 (Full List) Carbon disulfide
Vapor 8260 (Full List) Carbon tetrachloride	Vapor 8260 (Full List) Chlorobenzene
Vapor 8260 (Full List) Chloroethane	Vapor 8260 (Full List) Chloroform
Vapor 8260 (Full List) Chloromethane	Vapor 8260 (Full List) 2-Chlorotoluene
Vapor 8260 (Full List) 4-Chlorotoluene	Vapor 8260 (Full List) 1,2-Dibromo-3-chloropropane
Vapor 8260 (Full List) Dibromochloromethane	Vapor 8260 (Full List) 1,2-Dibromoethane (EDB)
Vapor 8260 (Full List) Dibromomethane	Vapor 8260 (Full List) 1,2-Dichlorobenzene
Vapor 8260 (Full List) 1,3-Dichlorobenzene	Vapor 8260 (Full List) 1,4-Dichlorobenzene
Vapor 8260 (Full List) Dichlorodifluoromethane	Vapor 8260 (Full List) 1,1-Dichloroethane
Vapor 8260 (Full List) 1,2-Dichloroethane	Vapor 8260 (Full List) 1,1-Dichloroethene
Vapor 8260 (Full List) cis-1,2-Dichloroethene	Vapor 8260 (Full List) trans-1,2-Dichloroethene
Vapor 8260 (Full List) Dichlorofluoromethane	Vapor 8260 (Full List) 1,2-Dichloropropane
Vapor 8260 (Full List) 1,3-Dichloropropane	Vapor 8260 (Full List) 2,2-Dichloropropane
Vapor 8260 (Full List) 1,1-Dichloropropene	Vapor 8260 (Full List) cis-1,3-Dichloropropene
Vapor 8260 (Full List) trans-1,3-Dichloropropene	Vapor 8260 (Full List) Diisopropyl ether (DIPE)
Vapor 8260 (Full List) Ethyl tert-butyl ether (ETBE)	Vapor 8260 (Full List) Ethylbenzene
Vapor 8260 (Full List) Hexachlorobutadiene	Vapor 8260 (Full List) 2-Hexanone
Vapor 8260 (Full List) Isopropylbenzene (Cumene)	Vapor 8260 (Full List) 4-Isopropyltoluene
Vapor 8260 (Full List) Methyl tert-butyl ether (MTBE)	Vapor 8260 (Full List) 4-Methyl-2-pentanone
Vapor 8260 (Full List) Methylene chloride	Vapor 8260 (Full List) Naphthalene
Vapor 8260 (Full List) n-Propylbenzene	Vapor 8260 (Full List) Styrene
Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane	Vapor 8260 (Full List) 1,1,2,2-Tetrachloroethane
Vapor 8260 (Full List) Tetrachloroethene	Vapor 8260 (Full List) Toluene
Vapor 8260 (Full List) 1,2,3-Trichlorobenzene	Vapor 8260 (Full List) 1,2,4-Trichlorobenzene
Vapor 8260 (Full List) 1,1,1-Trichloroethane	Vapor 8260 (Full List) 1,1,2-Trichloroethane
Vapor 8260 (Full List) Trichloroethene	Vapor 8260 (Full List) Trichlorofluoromethane (Freon 11)

Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
02/08/22 09:43

Maryland Spectral Services

Matrix , Method , Analyte

Vapor | 8260 (Full List) | 1,2,3-Trichloropropane
Vapor | 8260 (Full List) | 1,3,5-Trimethylbenzene
Vapor | 8260 (Full List) | o-Xylene

Vapor | 8260 (Full List) | 1,2,4-Trimethylbenzene
Vapor | 8260 (Full List) | Vinyl chloride
Vapor | 8260 (Full List) | m- & p-Xylenes



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
02/08/22 09:43

Notes and Definitions

- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

Maryland Spectral Services, Inc.
 1500 Caton Center Drive, Suite G
 Baltimore, MD 21227
 410-247-7600 • Fax 410-247-7602
 reporting@mdspectral.com

Matrix Codes: NW (non-potable water), DW (drinking water), SV (soil vapor)

Preservative: _____ MSS Lab ID: 2020201-01

Field Notes: _____

Analysis Requested

FULL SUITE VOCs +
 NAPHTHALENE 8260

No. of Containers: 1

Company Address:
 1600 Sparrows Point Blvd
 Sparrows Point, MD 21219
 Project Manager:
 Bob Tworowski (443) 649-5073
 Attention/Invoice:
 ap@tradeointatlantic.com

Sampler(s):
 Guy Davis/ARM Group
 (443) 610-0211

Field Sample ID

DATE TIME

CELL 1 SVE MF 2/22/08 0815

Water

DW

Soil

SV

Date/Time

Received by: (Signature)

Relinquished by: (Signature)

Date/Time

Received by Lab: (Signature)

Relinquished by: (Signature)

(Printed)

(Printed)

(Printed)

(Printed)

(Printed)

Lab Use:

Temp: _____ °C

Received on ice

Received same day

Turn Around Time:

Normal (7 day)

5 day

4 day

3 day

Rush (2 day)

Next Day

Other: _____

Specific Due Date: _____

Sample Disposal:

Return to Client

Disposal by lab

Archive for _____ days

Delivery Method:

Courier

Client

UPS

FedEx

USPS

Other: _____

Special Instructions/QC Requirements & Comments:

Please report to:

Bob Tworowski
 btworowski@tradeointatlantic.com

Matt Newman
 mnewman@tradeointatlantic.com

Guy Davis
 GDavis@armgroup.net

Doug Hamilton
 DHamilton@armgroup.net

08 March 2022

Bob Tworkowski
Tradepoint Atlantic
1600 Sparrows Point Boulevard
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 03/01/22 10:05.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
03/08/22 12:19

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 1 SVE INF		2030103-01	Vapor	03/01/22 09:05	03/01/22 10:05



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
03/08/22 12:19

CELL 1 SVE INF

2030103-01RE1 (Vapor)

Sample Date: 03/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	03/02/22	03/02/22 14:06	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	03/02/22	03/02/22 14:06	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Benzene	5.30		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	03/02/22	03/02/22 14:06	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	03/02/22	03/02/22 14:06	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	03/02/22	03/02/22 14:06	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	03/02/22	03/02/22 14:06	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	03/02/22	03/02/22 14:06	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
03/08/22 12:19

CELL 1 SVE INF

2030103-01RE1 (Vapor)

Sample Date: 03/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	03/02/22	03/02/22 14:06	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	03/02/22	03/02/22 14:06	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	03/02/22	03/02/22 14:06	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Styrene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Toluene	0.59		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
03/08/22 12:19

CELL 1 SVE INF

2030103-01RE1 (Vapor)
Sample Date: 03/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
m- & p-Xylenes	0.28		ug/L	0.20	0.10	0.1	03/02/22	03/02/22 14:06	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>70-130</i>	<i>93 %</i>	<i>03/02/22</i>		<i>03/02/22 14:06</i>		
<i>Surrogate: Toluene-d8</i>			<i>75-120</i>	<i>98 %</i>	<i>03/02/22</i>		<i>03/02/22 14:06</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>65-120</i>	<i>90 %</i>	<i>03/02/22</i>		<i>03/02/22 14:06</i>		

Will Brewington, President

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All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
03/08/22 12:19

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte

Vapor 8260 (Full List) Acetone	Vapor 8260 (Full List) tert-Amyl alcohol (TAA)
Vapor 8260 (Full List) tert-Amyl ethyl ether (TAEE)	Vapor 8260 (Full List) tert-Amyl methyl ether (TAME)
Vapor 8260 (Full List) Benzene	Vapor 8260 (Full List) Bromobenzene
Vapor 8260 (Full List) Bromochloromethane	Vapor 8260 (Full List) Bromodichloromethane
Vapor 8260 (Full List) Bromoform	Vapor 8260 (Full List) Bromomethane
Vapor 8260 (Full List) tert-Butanol (TBA)	Vapor 8260 (Full List) 2-Butanone (MEK)
Vapor 8260 (Full List) n-Butylbenzene	Vapor 8260 (Full List) sec-Butylbenzene
Vapor 8260 (Full List) tert-Butylbenzene	Vapor 8260 (Full List) Carbon disulfide
Vapor 8260 (Full List) Carbon tetrachloride	Vapor 8260 (Full List) Chlorobenzene
Vapor 8260 (Full List) Chloroethane	Vapor 8260 (Full List) Chloroform
Vapor 8260 (Full List) Chloromethane	Vapor 8260 (Full List) 2-Chlorotoluene
Vapor 8260 (Full List) 4-Chlorotoluene	Vapor 8260 (Full List) 1,2-Dibromo-3-chloropropane
Vapor 8260 (Full List) Dibromochloromethane	Vapor 8260 (Full List) 1,2-Dibromoethane (EDB)
Vapor 8260 (Full List) Dibromomethane	Vapor 8260 (Full List) 1,2-Dichlorobenzene
Vapor 8260 (Full List) 1,3-Dichlorobenzene	Vapor 8260 (Full List) 1,4-Dichlorobenzene
Vapor 8260 (Full List) Dichlorodifluoromethane	Vapor 8260 (Full List) 1,1-Dichloroethane
Vapor 8260 (Full List) 1,2-Dichloroethane	Vapor 8260 (Full List) 1,1-Dichloroethene
Vapor 8260 (Full List) cis-1,2-Dichloroethene	Vapor 8260 (Full List) trans-1,2-Dichloroethene
Vapor 8260 (Full List) Dichlorofluoromethane	Vapor 8260 (Full List) 1,2-Dichloropropane
Vapor 8260 (Full List) 1,3-Dichloropropane	Vapor 8260 (Full List) 2,2-Dichloropropane
Vapor 8260 (Full List) 1,1-Dichloropropene	Vapor 8260 (Full List) cis-1,3-Dichloropropene
Vapor 8260 (Full List) trans-1,3-Dichloropropene	Vapor 8260 (Full List) Diisopropyl ether (DIPE)
Vapor 8260 (Full List) Ethyl tert-butyl ether (ETBE)	Vapor 8260 (Full List) Ethylbenzene
Vapor 8260 (Full List) Hexachlorobutadiene	Vapor 8260 (Full List) 2-Hexanone
Vapor 8260 (Full List) Isopropylbenzene (Cumene)	Vapor 8260 (Full List) 4-Isopropyltoluene
Vapor 8260 (Full List) Methyl tert-butyl ether (MTBE)	Vapor 8260 (Full List) 4-Methyl-2-pentanone
Vapor 8260 (Full List) Methylene chloride	Vapor 8260 (Full List) Naphthalene
Vapor 8260 (Full List) n-Propylbenzene	Vapor 8260 (Full List) Styrene
Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane	Vapor 8260 (Full List) 1,1,1,2,2-Tetrachloroethane
Vapor 8260 (Full List) Tetrachloroethene	Vapor 8260 (Full List) Toluene
Vapor 8260 (Full List) 1,2,3-Trichlorobenzene	Vapor 8260 (Full List) 1,2,4-Trichlorobenzene
Vapor 8260 (Full List) 1,1,1-Trichloroethane	Vapor 8260 (Full List) 1,1,2-Trichloroethane
Vapor 8260 (Full List) Trichloroethene	Vapor 8260 (Full List) Trichlorofluoromethane (Freon 11)

Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
03/08/22 12:19

Maryland Spectral Services

Matrix , Method , Analyte

Vapor | 8260 (Full List) | 1,2,3-Trichloropropane
Vapor | 8260 (Full List) | 1,3,5-Trimethylbenzene
Vapor | 8260 (Full List) | o-Xylene

Vapor | 8260 (Full List) | 1,2,4-Trimethylbenzene
Vapor | 8260 (Full List) | Vinyl chloride
Vapor | 8260 (Full List) | m- & p-Xylenes



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
03/08/22 12:19

Notes and Definitions


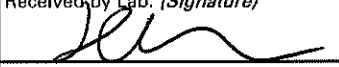

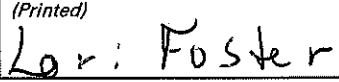
RE	Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
%-Solids	Percent Solids is a supportive test and as such does not require accreditation



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Company Name: Tradepoint Atlantic		Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219		Analysis Requested										CHAIN-OF-CUSTODY RECORD					
Project Name: Sparrows Point IM		Project Manager: Bob Tworowski (443) 649-5073												Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com					
Sampler(s): Guy Davis/ARM Group (443) 610-0211		Attention/Invoice: ap@tradepointatlantic.com												Matrix Codes: NW (non-potable water), DW (drinking water), SV (soil vapor)					
Field Sample ID	Date	Time	DW	Water	Soil	SV	No. of Containers	FULL SUITE VOCs + NAPHTHALENE 8260									Preservative	Field Notes	MSS Lab ID
CELL 1 SVE INT	3/1/22	0905				X	1	X											2030103-01
Relinquished by: (Signature) 		Date/Time 3/1/22/1005		Received by: (Signature) 		Relinquished by: (Signature) 		Date/Time 3-1-22 10:05		Received by Lab: (Signature) 		Turn Around Time: <input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____		Lab Use: Temp: _____ °C <input type="checkbox"/> Received on ice <input checked="" type="checkbox"/> Received same day		Sample Disposal: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for _____ days			
Delivery Method: <input checked="" type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		Special Instructions/QC Requirements & Comments: Please report to: Bob Tworowski btworkowski@tradepointatlantic.com Matt Newman mnewman@tradepointatlantic.com Guy Davis GDavis@armgroup.net Doug Hamilton DHamilton@armgroup.net																	

17 March 2022

Bob Tworkowski
Tradepoint Atlantic
1600 Sparrows Point Boulevard
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 03/10/22 12:51.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
03/17/22 15:29

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 5 DPE INF		2031006-01	Vapor	03/10/22 09:15	03/10/22 12:51



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
03/17/22 15:29

CELL 5 DPE INF

2031006-01 (Vapor)
Sample Date: 03/10/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	03/10/22	03/10/22 13:47	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	03/10/22	03/10/22 13:47	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Benzene	2.60		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	03/10/22	03/10/22 13:47	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	03/10/22	03/10/22 13:47	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	03/10/22	03/10/22 13:47	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	03/10/22	03/10/22 13:47	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	03/10/22	03/10/22 13:47	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL

Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
03/17/22 15:29

CELL 5 DPE INF

2031006-01 (Vapor)
Sample Date: 03/10/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Ethylbenzene	0.15	J	ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	03/10/22	03/10/22 13:47	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	03/10/22	03/10/22 13:47	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	03/10/22	03/10/22 13:47	LL
Naphthalene	0.33		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Styrene	0.43		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Toluene	1.87		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL

Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
03/17/22 15:29

CELL 5 DPE INF

2031006-01 (Vapor)
Sample Date: 03/10/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,2,4-Trimethylbenzene	0.37		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
1,3,5-Trimethylbenzene	0.24		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
o-Xylene	0.67		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
m- & p-Xylenes	2.12		ug/L	0.20	0.10	0.1	03/10/22	03/10/22 13:47	LL
Surrogate: 1,2-Dichloroethane-d4		70-130		103 %	03/10/22		03/10/22 13:47		
Surrogate: Toluene-d8		75-120		98 %	03/10/22		03/10/22 13:47		
Surrogate: 4-Bromofluorobenzene		65-120		94 %	03/10/22		03/10/22 13:47		

Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
03/17/22 15:29

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte

Vapor 8260 (Full List) Acetone	Vapor 8260 (Full List) tert-Amyl alcohol (TAA)
Vapor 8260 (Full List) tert-Amyl ethyl ether (TAEE)	Vapor 8260 (Full List) tert-Amyl methyl ether (TAME)
Vapor 8260 (Full List) Benzene	Vapor 8260 (Full List) Bromobenzene
Vapor 8260 (Full List) Bromochloromethane	Vapor 8260 (Full List) Bromodichloromethane
Vapor 8260 (Full List) Bromoform	Vapor 8260 (Full List) Bromomethane
Vapor 8260 (Full List) tert-Butanol (TBA)	Vapor 8260 (Full List) 2-Butanone (MEK)
Vapor 8260 (Full List) n-Butylbenzene	Vapor 8260 (Full List) sec-Butylbenzene
Vapor 8260 (Full List) tert-Butylbenzene	Vapor 8260 (Full List) Carbon disulfide
Vapor 8260 (Full List) Carbon tetrachloride	Vapor 8260 (Full List) Chlorobenzene
Vapor 8260 (Full List) Chloroethane	Vapor 8260 (Full List) Chloroform
Vapor 8260 (Full List) Chloromethane	Vapor 8260 (Full List) 2-Chlorotoluene
Vapor 8260 (Full List) 4-Chlorotoluene	Vapor 8260 (Full List) 1,2-Dibromo-3-chloropropane
Vapor 8260 (Full List) Dibromochloromethane	Vapor 8260 (Full List) 1,2-Dibromoethane (EDB)
Vapor 8260 (Full List) Dibromomethane	Vapor 8260 (Full List) 1,2-Dichlorobenzene
Vapor 8260 (Full List) 1,3-Dichlorobenzene	Vapor 8260 (Full List) 1,4-Dichlorobenzene
Vapor 8260 (Full List) Dichlorodifluoromethane	Vapor 8260 (Full List) 1,1-Dichloroethane
Vapor 8260 (Full List) 1,2-Dichloroethane	Vapor 8260 (Full List) 1,1-Dichloroethene
Vapor 8260 (Full List) cis-1,2-Dichloroethene	Vapor 8260 (Full List) trans-1,2-Dichloroethene
Vapor 8260 (Full List) Dichlorofluoromethane	Vapor 8260 (Full List) 1,2-Dichloropropane
Vapor 8260 (Full List) 1,3-Dichloropropane	Vapor 8260 (Full List) 2,2-Dichloropropane
Vapor 8260 (Full List) 1,1-Dichloropropene	Vapor 8260 (Full List) cis-1,3-Dichloropropene
Vapor 8260 (Full List) trans-1,3-Dichloropropene	Vapor 8260 (Full List) Diisopropyl ether (DIPE)
Vapor 8260 (Full List) Ethyl tert-butyl ether (ETBE)	Vapor 8260 (Full List) Ethylbenzene
Vapor 8260 (Full List) Hexachlorobutadiene	Vapor 8260 (Full List) 2-Hexanone
Vapor 8260 (Full List) Isopropylbenzene (Cumene)	Vapor 8260 (Full List) 4-Isopropyltoluene
Vapor 8260 (Full List) Methyl tert-butyl ether (MTBE)	Vapor 8260 (Full List) 4-Methyl-2-pentanone
Vapor 8260 (Full List) Methylene chloride	Vapor 8260 (Full List) Naphthalene
Vapor 8260 (Full List) n-Propylbenzene	Vapor 8260 (Full List) Styrene
Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane	Vapor 8260 (Full List) 1,1,1,2,2-Tetrachloroethane
Vapor 8260 (Full List) Tetrachloroethene	Vapor 8260 (Full List) Toluene
Vapor 8260 (Full List) 1,2,3-Trichlorobenzene	Vapor 8260 (Full List) 1,2,4-Trichlorobenzene
Vapor 8260 (Full List) 1,1,1-Trichloroethane	Vapor 8260 (Full List) 1,1,2-Trichloroethane
Vapor 8260 (Full List) Trichloroethene	Vapor 8260 (Full List) Trichlorofluoromethane (Freon 11)



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
03/17/22 15:29

Maryland Spectral Services

Matrix , Method , Analyte

Vapor | 8260 (Full List) | 1,2,3-Trichloropropane
Vapor | 8260 (Full List) | 1,3,5-Trimethylbenzene
Vapor | 8260 (Full List) | o-Xylene

Vapor | 8260 (Full List) | 1,2,4-Trimethylbenzene
Vapor | 8260 (Full List) | Vinyl chloride
Vapor | 8260 (Full List) | m- & p-Xylenes

Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Notes and Definitions

- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation

If this report contains any samples analyzed for gasoline range organics (GRO) by EPA Method 8015C and no trip blank was shipped, stored, and received with the sample(s) as required by Section 3.1 of the EPA Method, the sample analysis contained in this report cannot exclude the possibility that any reportable GRO measurement was due to environmental contamination of the sample during shipping or storage.



Will Brewington, President

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12 April 2022

Bob Tworkowski
Tradepoint Atlantic
6995 Bethlehem BLVD
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 04/04/22 11:15.

Please visit our website at www.mdspectral.com for a complete listing of our accreditations.

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

Sincerely,



Rabecka Koons
Quality Assurance Officer

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
04/12/22 11:23

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 1 SVE INF		2040402-01	Vapor	04/04/22 07:05	04/04/22 11:15
CELL 5 DPE INF		2040402-02	Vapor	04/04/22 07:40	04/04/22 11:15

Rabecka Koons

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Rabecka Koons, Quality Assurance Officer

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
04/12/22 11:23

CELL 1 SVE INF

2040402-01 (Vapor)
Sample Date: 04/04/22

Analyte	Result	Notes	Units	Reporting	Detection	Dilution	Prepared	Analyzed	Analyst
				Limit (MRL)	Limit (LOD)				
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	04/04/22	04/04/22 14:01	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	04/04/22	04/04/22 14:01	LL
tert-Amyl ethyl ether (TAAEE)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Benzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	04/04/22	04/04/22 14:01	LL
tert-Butanol (TBA)	2.41		ug/L	1.50	1.50	0.1	04/04/22	04/04/22 14:01	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	04/04/22	04/04/22 14:01	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	04/04/22	04/04/22 14:01	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	04/04/22	04/04/22 14:01	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL

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Rabecka Koons, Quality Assurance Officer

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
04/12/22 11:23

CELL 1 SVE INF

2040402-01 (Vapor)
Sample Date: 04/04/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	04/04/22	04/04/22 14:01	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	04/04/22	04/04/22 14:01	LL
Methylene chloride	1.61	L	ug/L	1.00	1.00	0.1	04/04/22	04/04/22 14:01	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Styrene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Toluene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL

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Rabecka Koons, Quality Assurance Officer

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
04/12/22 11:23

CELL 1 SVE INF

2040402-01 (Vapor)
Sample Date: 04/04/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
Trichloroethene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:01	LL
Surrogate: 1,2-Dichloroethane-d4			70-130	105 %	04/04/22		04/04/22 14:01		
Surrogate: Toluene-d8			75-120	100 %	04/04/22		04/04/22 14:01		
Surrogate: 4-Bromofluorobenzene			65-120	94 %	04/04/22		04/04/22 14:01		

Rabecka Koons

Rabecka Koons, Quality Assurance Officer

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Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
04/12/22 11:23

CELL 5 DPE INF

2040402-02 (Vapor)
Sample Date: 04/04/22

Analyte	Result	Notes	Units	Reporting	Detection	Dilution	Prepared	Analyzed	Analyst
				Limit (MRL)	Limit (LOD)				
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	04/04/22	04/04/22 14:26	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	04/04/22	04/04/22 14:26	LL
tert-Amyl ethyl ether (TAAEE)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Benzene	0.66		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	04/04/22	04/04/22 14:26	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	04/04/22	04/04/22 14:26	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	04/04/22	04/04/22 14:26	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	04/04/22	04/04/22 14:26	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	04/04/22	04/04/22 14:26	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL



Rabecka Koons, Quality Assurance Officer

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Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
04/12/22 11:23

CELL 5 DPE INF

2040402-02 (Vapor)
Sample Date: 04/04/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	04/04/22	04/04/22 14:26	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	04/04/22	04/04/22 14:26	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	04/04/22	04/04/22 14:26	LL
Naphthalene	0.12	J	ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Styrene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Toluene	0.45		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL



Rabecka Koons, Quality Assurance Officer

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Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
04/12/22 11:23

CELL 5 DPE INF

2040402-02 (Vapor)
Sample Date: 04/04/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
Trichloroethene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
o-Xylene	0.15	J	ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
m- & p-Xylenes	0.50		ug/L	0.20	0.10	0.1	04/04/22	04/04/22 14:26	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>70-130</i>	<i>105 %</i>	<i>04/04/22</i>		<i>04/04/22 14:26</i>		
<i>Surrogate: Toluene-d8</i>			<i>75-120</i>	<i>99 %</i>	<i>04/04/22</i>		<i>04/04/22 14:26</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>65-120</i>	<i>95 %</i>	<i>04/04/22</i>		<i>04/04/22 14:26</i>		



Rabecka Koons, Quality Assurance Officer

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Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
04/12/22 11:23

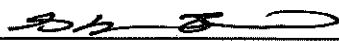
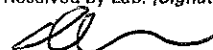
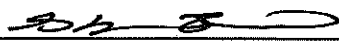
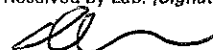
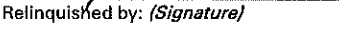
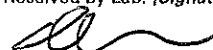
Notes and Definitions

- L Analyte is a possible laboratory contaminant
- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation



Rabecka Koons, Quality Assurance Officer

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Company Name: Tradepoint Atlantic		Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219		Analysis Requested										CHAIN-OF-CUSTODY RECORD							
Project Name: Sparrows Point IM		Project Manager: Bob Tworkowski (443) 649-5073		FULL SUITE VOCs + NAPHTHALENE 8260										Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com							
Sampler(s): Guy Davis/ARM Group (443) 610-0211		Attention/Invoice: ap@tradepointatlantic.com												Matrix Codes: NW (non-potable water), DW (drinking water), SV (soil vapor)							
Field Sample ID	Date	Time	DW	Water	Soil	SV	No. of Containers											Preservative	Field Notes	MSS Lab ID	
CELL 1 SVE INF	4/4/22	0705				X	1	X													2040402 - 01
CELL 5 DPE INF	4/4/22	0740				X	1	X													- 02
Relinquished by: (Signature) 		Date/Time 4/4/22/ 1115		Received by: (Signature) 				Relinquished by: (Signature) 				Date/Time		Received by: (Signature) 							
(Printed) Guy L Davis				(Printed) Lori Foster				(Printed)						(Printed)							
Relinquished by: (Signature) 		Date/Time 11:15 4-4-22		Received by Lab: (Signature) 				Turn Around Time: <input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____				Lab Use: Temp: _____ °C <input type="checkbox"/> Received on Ice <input checked="" type="checkbox"/> Received same day									
(Printed)				(Printed) Lori Foster																	
Delivery Method: <input checked="" type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		Special Instructions/QC Requirements & Comments: Please report to: Bob Tworkowski btworkowski@tradepointatlantic.com Guy Davis GDavis@armgroup.net Doug Hamilton DHamilton@armgroup.net										Sample Disposal: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for _____ days									

22 April 2022

Bob Tworkowski
Tradepoint Atlantic
6995 Bethlehem BLVD
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 04/14/22 10:45.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
04/22/22 11:22

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 3 SVE INF		2041402-01	Vapor	04/14/22 08:00	04/14/22 10:45



Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
04/22/22 11:22

CELL 3 SVE INF

2041402-01 (Vapor)
Sample Date: 04/14/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	5.00	5.00	0.5	04/14/22	04/14/22 14:03	LL
tert-Amyl alcohol (TAA)	ND		ug/L	10.0	10.0	0.5	04/14/22	04/14/22 14:03	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Benzene	76.3		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Bromobenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Bromochloromethane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Bromodichloromethane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Bromoform	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Bromomethane	ND		ug/L	2.50	2.50	0.5	04/14/22	04/14/22 14:03	LL
tert-Butanol (TBA)	ND		ug/L	7.50	7.50	0.5	04/14/22	04/14/22 14:03	LL
2-Butanone (MEK)	ND		ug/L	5.00	5.00	0.5	04/14/22	04/14/22 14:03	LL
n-Butylbenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
sec-Butylbenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
tert-Butylbenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Carbon disulfide	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Carbon tetrachloride	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Chlorobenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Chloroethane	ND		ug/L	2.50	2.50	0.5	04/14/22	04/14/22 14:03	LL
Chloroform	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Chloromethane	ND		ug/L	2.50	2.50	0.5	04/14/22	04/14/22 14:03	LL
2-Chlorotoluene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
4-Chlorotoluene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Dibromochloromethane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,2-Dibromoethane (EDB)	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Dibromomethane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,2-Dichlorobenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,3-Dichlorobenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,4-Dichlorobenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Dichlorodifluoromethane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,1-Dichloroethane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,2-Dichloroethane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL

Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
04/22/22 11:22

CELL 3 SVE INF

2041402-01 (Vapor)
Sample Date: 04/14/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
cis-1,2-Dichloroethene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
trans-1,2-Dichloroethene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Dichlorofluoromethane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,2-Dichloropropane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,3-Dichloropropane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
2,2-Dichloropropane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,1-Dichloropropene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
cis-1,3-Dichloropropene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
trans-1,3-Dichloropropene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Diisopropyl ether (DIPE)	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Ethylbenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Hexachlorobutadiene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
2-Hexanone	ND		ug/L	5.00	5.00	0.5	04/14/22	04/14/22 14:03	LL
Isopropylbenzene (Cumene)	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
4-Isopropyltoluene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
4-Methyl-2-pentanone	ND		ug/L	5.00	5.00	0.5	04/14/22	04/14/22 14:03	LL
Methylene chloride	ND		ug/L	5.00	5.00	0.5	04/14/22	04/14/22 14:03	LL
Naphthalene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
n-Propylbenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Styrene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Tetrachloroethene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Toluene	4.84		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,2,3-Trichlorobenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,2,4-Trichlorobenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,1,1-Trichloroethane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,1,2-Trichloroethane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Trichloroethene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
04/22/22 11:22

CELL 3 SVE INF

2041402-01 (Vapor)
Sample Date: 04/14/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,2,4-Trimethylbenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
1,3,5-Trimethylbenzene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Vinyl chloride	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
o-Xylene	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
m- & p-Xylenes	ND		ug/L	1.00	0.50	0.5	04/14/22	04/14/22 14:03	LL
Surrogate: 1,2-Dichloroethane-d4		70-130		88 %	04/14/22		04/14/22 14:03		
Surrogate: Toluene-d8		75-120		95 %	04/14/22		04/14/22 14:03		
Surrogate: 4-Bromofluorobenzene		65-120		92 %	04/14/22		04/14/22 14:03		

Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
04/22/22 11:22

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte

Vapor 8260 (Full List) Acetone	Vapor 8260 (Full List) tert-Amyl alcohol (TAA)
Vapor 8260 (Full List) tert-Amyl ethyl ether (TAEE)	Vapor 8260 (Full List) tert-Amyl methyl ether (TAME)
Vapor 8260 (Full List) Benzene	Vapor 8260 (Full List) Bromobenzene
Vapor 8260 (Full List) Bromochloromethane	Vapor 8260 (Full List) Bromodichloromethane
Vapor 8260 (Full List) Bromoform	Vapor 8260 (Full List) Bromomethane
Vapor 8260 (Full List) tert-Butanol (TBA)	Vapor 8260 (Full List) 2-Butanone (MEK)
Vapor 8260 (Full List) n-Butylbenzene	Vapor 8260 (Full List) sec-Butylbenzene
Vapor 8260 (Full List) tert-Butylbenzene	Vapor 8260 (Full List) Carbon disulfide
Vapor 8260 (Full List) Carbon tetrachloride	Vapor 8260 (Full List) Chlorobenzene
Vapor 8260 (Full List) Chloroethane	Vapor 8260 (Full List) Chloroform
Vapor 8260 (Full List) Chloromethane	Vapor 8260 (Full List) 2-Chlorotoluene
Vapor 8260 (Full List) 4-Chlorotoluene	Vapor 8260 (Full List) 1,2-Dibromo-3-chloropropane
Vapor 8260 (Full List) Dibromochloromethane	Vapor 8260 (Full List) 1,2-Dibromoethane (EDB)
Vapor 8260 (Full List) Dibromomethane	Vapor 8260 (Full List) 1,2-Dichlorobenzene
Vapor 8260 (Full List) 1,3-Dichlorobenzene	Vapor 8260 (Full List) 1,4-Dichlorobenzene
Vapor 8260 (Full List) Dichlorodifluoromethane	Vapor 8260 (Full List) 1,1-Dichloroethane
Vapor 8260 (Full List) 1,2-Dichloroethane	Vapor 8260 (Full List) 1,1-Dichloroethene
Vapor 8260 (Full List) cis-1,2-Dichloroethene	Vapor 8260 (Full List) trans-1,2-Dichloroethene
Vapor 8260 (Full List) Dichlorofluoromethane	Vapor 8260 (Full List) 1,2-Dichloropropane
Vapor 8260 (Full List) 1,3-Dichloropropane	Vapor 8260 (Full List) 2,2-Dichloropropane
Vapor 8260 (Full List) 1,1-Dichloropropene	Vapor 8260 (Full List) cis-1,3-Dichloropropene
Vapor 8260 (Full List) trans-1,3-Dichloropropene	Vapor 8260 (Full List) Diisopropyl ether (DIPE)
Vapor 8260 (Full List) Ethyl tert-butyl ether (ETBE)	Vapor 8260 (Full List) Ethylbenzene
Vapor 8260 (Full List) Hexachlorobutadiene	Vapor 8260 (Full List) 2-Hexanone
Vapor 8260 (Full List) Isopropylbenzene (Cumene)	Vapor 8260 (Full List) 4-Isopropyltoluene
Vapor 8260 (Full List) Methyl tert-butyl ether (MTBE)	Vapor 8260 (Full List) 4-Methyl-2-pentanone
Vapor 8260 (Full List) Methylene chloride	Vapor 8260 (Full List) Naphthalene
Vapor 8260 (Full List) n-Propylbenzene	Vapor 8260 (Full List) Styrene
Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane	Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane
Vapor 8260 (Full List) Tetrachloroethene	Vapor 8260 (Full List) Toluene
Vapor 8260 (Full List) 1,2,3-Trichlorobenzene	Vapor 8260 (Full List) 1,2,4-Trichlorobenzene
Vapor 8260 (Full List) 1,1,1-Trichloroethane	Vapor 8260 (Full List) 1,1,2-Trichloroethane
Vapor 8260 (Full List) Trichloroethene	Vapor 8260 (Full List) Trichlorofluoromethane (Freon 11)



Will Brewington, President

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Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
04/22/22 11:22

Maryland Spectral Services

Matrix , Method , Analyte

Vapor | 8260 (Full List) | 1,2,3-Trichloropropane

Vapor | 8260 (Full List) | 1,3,5-Trimethylbenzene

Vapor | 8260 (Full List) | o-Xylene

Vapor | 8260 (Full List) | 1,2,4-Trimethylbenzene

Vapor | 8260 (Full List) | Vinyl chloride

Vapor | 8260 (Full List) | m- & p-Xylenes



Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
04/22/22 11:22

Notes and Definitions





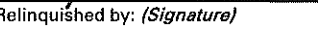
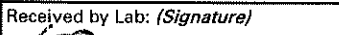
- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation

If this report contains any samples analyzed for gasoline range organics (GRO) by EPA Method 8015C and no trip blank was shipped, stored, and received with the sample(s) as required by Section 3.1 of the EPA Method, the sample analysis contained in this report cannot exclude the possibility that any reportable GRO measurement was due to environmental contamination of the sample during shipping or storage.



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Company Name: Tradepoint Atlantic		Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219				Analysis Requested										CHAIN-OF-CUSTODY RECORD			
Project Name: Sparrows Point IM		Project Manager: Bob Tworkowski (443) 649-5073				FULL SUITE VOCs + NAPHTHALENE 8260										Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com			
Sampler(s): Guy Davis/ARM Group (443) 610-0211		Attention/Invoice: ap@tradepointatlantic.com														Matrix Codes: NW (non-potable water), DW (drinking water), SV (soil vapor)			
Field Sample ID	Date	Time	DW	Water	Soil	SV	No. of Containers										Preservative	Field Notes	MSS Lab ID
CELL 3 SVE INF	4/14/22	0800				<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>											2091402-01
Relinquished by: (Signature) 		Date/Time 4/14/22/1045	Received by: (Signature) 				Relinquished by: (Signature) 				Date/Time	Received by: (Signature) 							
(Printed) Guy L Davis			(Printed)				(Printed)					(Printed)							
Relinquished by: (Signature) 		Date/Time 4-14-22 10:45	Received by Lab: (Signature) 				Turn Around Time: <input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____				Lab Use: Temp: _____°C <input type="checkbox"/> Received on Ice <input type="checkbox"/> Received same day								
(Printed)			(Printed)																
Delivery Method: <input checked="" type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		Special Instructions/QC Requirements & Comments: Please report to: Bob Tworkowski btworkowski@tradepointatlantic.com Guy Davis GDavis@armgroup.net Doug Hamilton DHamilton@armgroup.net										Sample Disposal: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for _____ days							

06 May 2022

Bob Tworkowski
Tradepoint Atlantic
6995 Bethlehem BLVD
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 05/03/22 09:36.

Please visit our website at www.mdspectral.com for a complete listing of our accreditations.

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

Sincerely,



Rabecka Koons
Quality Assurance Officer

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
05/06/22 11:02

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 3 SVE INF		2050302-01	Vapor	05/03/22 06:50	05/03/22 09:36
CELL 1 SVE INF		2050302-02	Vapor	05/03/22 07:20	05/03/22 09:36
CELL 5 DPE INF		2050302-03	Vapor	05/03/22 07:50	05/03/22 09:36



Rabecka Koons, Quality Assurance Officer

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
05/06/22 11:02

CELL 3 SVE INF

2050302-01 (Vapor)
Sample Date: 05/03/22

Analyte	Result	Notes	Units	Reporting	Detection	Dilution	Prepared	Analyzed	Analyst
				Limit (MRL)	Limit (LOD)				
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	1.32		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 12:52	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	05/03/22	05/03/22 12:52	LL
tert-Amyl ethyl ether (TAEE)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Benzene	2.53		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	05/03/22	05/03/22 12:52	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	05/03/22	05/03/22 12:52	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 12:52	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	05/03/22	05/03/22 12:52	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	05/03/22	05/03/22 12:52	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Rabecka Koons, Quality Assurance Officer

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
05/06/22 11:02

CELL 3 SVE INF

2050302-01 (Vapor)
Sample Date: 05/03/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 12:52	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 12:52	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 12:52	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Styrene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Toluene	0.22		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL



Rabecka Koons, Quality Assurance Officer

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Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
05/06/22 11:02

CELL 3 SVE INF

2050302-01 (Vapor)
Sample Date: 05/03/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
Trichloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 12:52	LL
Surrogate: 1,2-Dichloroethane-d4			70-130	98 %	05/03/22		05/03/22 12:52		
Surrogate: Toluene-d8			75-120	97 %	05/03/22		05/03/22 12:52		
Surrogate: 4-Bromofluorobenzene			65-120	96 %	05/03/22		05/03/22 12:52		

Rabecka Koons

Rabecka Koons, Quality Assurance Officer

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Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
05/06/22 11:02

CELL 1 SVE INF

2050302-02 (Vapor)
Sample Date: 05/03/22

Analyte	Result	Notes	Units	Reporting	Detection	Dilution	Prepared	Analyzed	Analyst
				Limit (MRL)	Limit (LOD)				
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 13:17	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	05/03/22	05/03/22 13:17	LL
tert-Amyl ethyl ether (TAAEE)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Benzene	15.4		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	05/03/22	05/03/22 13:17	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	05/03/22	05/03/22 13:17	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 13:17	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	05/03/22	05/03/22 13:17	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	05/03/22	05/03/22 13:17	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL



Rabecka Koons, Quality Assurance Officer

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Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
05/06/22 11:02

CELL 1 SVE INF

2050302-02 (Vapor)
Sample Date: 05/03/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 13:17	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 13:17	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 13:17	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Styrene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Toluene	1.04		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL



Rabecka Koons, Quality Assurance Officer

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Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
05/06/22 11:02

CELL 1 SVE INF

2050302-02 (Vapor)
Sample Date: 05/03/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
Trichloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
m- & p-Xylenes	0.16	J	ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:17	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>				70-130	96 %		05/03/22	05/03/22 13:17	
<i>Surrogate: Toluene-d8</i>				75-120	97 %		05/03/22	05/03/22 13:17	
<i>Surrogate: 4-Bromofluorobenzene</i>				65-120	97 %		05/03/22	05/03/22 13:17	



Rabecka Koons, Quality Assurance Officer

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Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
05/06/22 11:02

CELL 5 DPE INF

2050302-03 (Vapor)
Sample Date: 05/03/22

Analyte	Result	Notes	Units	Reporting	Detection	Dilution	Prepared	Analyzed	Analyst
				Limit (MRL)	Limit (LOD)				
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 13:41	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	05/03/22	05/03/22 13:41	LL
tert-Amyl ethyl ether (TAAEE)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Benzene	0.76		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	05/03/22	05/03/22 13:41	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	05/03/22	05/03/22 13:41	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 13:41	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	05/03/22	05/03/22 13:41	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	05/03/22	05/03/22 13:41	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Rabecka Koons, Quality Assurance Officer

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
05/06/22 11:02

CELL 5 DPE INF

2050302-03 (Vapor)
Sample Date: 05/03/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 13:41	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 13:41	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	05/03/22	05/03/22 13:41	LL
Naphthalene	0.13	J	ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Styrene	0.10	J	ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Toluene	0.46		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL

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Rabecka Koons, Quality Assurance Officer

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
05/06/22 11:02

CELL 5 DPE INF

2050302-03 (Vapor)
Sample Date: 05/03/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
o-Xylene	0.17	J	ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
m- & p-Xylenes	0.54		ug/L	0.20	0.10	0.1	05/03/22	05/03/22 13:41	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>70-130</i>	<i>98 %</i>	<i>05/03/22</i>		<i>05/03/22 13:41</i>		
<i>Surrogate: Toluene-d8</i>			<i>75-120</i>	<i>96 %</i>	<i>05/03/22</i>		<i>05/03/22 13:41</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>65-120</i>	<i>98 %</i>	<i>05/03/22</i>		<i>05/03/22 13:41</i>		



Rabecka Koons, Quality Assurance Officer

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1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
05/06/22 11:02



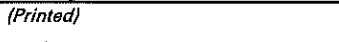
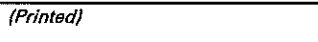

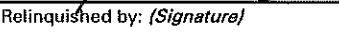
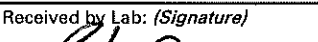

Notes and Definitions

- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation



Rabecka Koons, Quality Assurance Officer

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Company Name: Tradepoint Atlantic		Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219		Analysis Requested										CHAIN-OF-CUSTODY RECORD						
Project Name: Sparrows Point IM		Project Manager: Bob Tworkowski (443) 649-5073		FULL SUITE VOCs + NAPHTHALENE 8260										Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com						
Sampler(s): Guy Davis/ARM Group (443) 610-0211		Attention/Invoice: ap@tradepointatlantic.com												Matrix Codes: NW (non-potable water), DW (drinking water), SV (soil vapor)						
Field Sample ID	Date	Time	DW	Water	Soil	SV	No. of Containers											Preservative	Field Notes	MSS Lab ID
CELL 3 SVE INF	5/3/22	0650				X	1													2050302 - 01
CELL 1 SVE INF	↓	0720				X	1													- 02
CELL 5 DPE INF	5/3/22	0750				X	1													- 03
Relinquished by: (Signature) 		Date/Time 5/3/22 0935		Received by: (Signature) 		Relinquished by: (Signature) 		Date/Time 5-3-22 9:36		Received by Lab: (Signature) 		Turn Around Time: <input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____		Lab Use: Temp: ____ °C <input type="checkbox"/> Received on Ice <input type="checkbox"/> Received same day		Received by: (Signature) 				
(Printed) Guy L Davis				(Printed) Lori Foster		(Printed)								(Printed)						
Relinquished by: (Signature) 		Date/Time 5-3-22 9:36		Received by Lab: (Signature) 		Turn Around Time: <input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____		Lab Use: Temp: ____ °C <input type="checkbox"/> Received on Ice <input type="checkbox"/> Received same day		Received by: (Signature) 										
(Printed)				(Printed)						(Printed)										
Delivery Method: <input checked="" type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		Special Instructions/QC Requirements & Comments: Please report to: Bob Tworkowski btworkowski@tradepointatlantic.com Guy Davis GDavis@armgroup.net Doug Hamilton DHamilton@armgroup.net										Sample Disposal: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for ____ days								

09 June 2022

Bob Tworkowski
Tradepoint Atlantic
6995 Bethlehem BLVD
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 06/02/22 12:00.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
06/09/22 15:29

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 3 SVE INF		2060236-01	Vapor	06/01/22 06:15	06/02/22 12:00
CELL 1 SVE INF		2060236-02	Vapor	06/01/22 12:05	06/02/22 12:00
CELL 5 DPE INF		2060236-03	Vapor	06/01/22 12:15	06/02/22 12:00



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
06/09/22 15:29

CELL 3 SVE INF

2060236-01 (Vapor)
Sample Date: 06/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	1.06		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 14:30	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	06/02/22	06/02/22 14:30	LL
tert-Amyl ethyl ether (TAE)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Benzene	6.94		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	06/02/22	06/02/22 14:30	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	06/02/22	06/02/22 14:30	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 14:30	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	06/02/22	06/02/22 14:30	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	06/02/22	06/02/22 14:30	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL



Will Brewington, President

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All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
06/09/22 15:29

CELL 3 SVE INF

2060236-01 (Vapor)
Sample Date: 06/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 14:30	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 14:30	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 14:30	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Styrene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Toluene	0.54		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
06/09/22 15:29

CELL 3 SVE INF

2060236-01 (Vapor)
Sample Date: 06/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:30	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>70-130</i>	<i>102 %</i>	<i>06/02/22</i>		<i>06/02/22 14:30</i>		
<i>Surrogate: Toluene-d8</i>			<i>75-120</i>	<i>99 %</i>	<i>06/02/22</i>		<i>06/02/22 14:30</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>65-120</i>	<i>96 %</i>	<i>06/02/22</i>		<i>06/02/22 14:30</i>		



Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
06/09/22 15:29

CELL 1 SVE INF

2060236-02 (Vapor)
Sample Date: 06/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatiles by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 13:41	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	06/02/22	06/02/22 13:41	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Benzene	8.83		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	06/02/22	06/02/22 13:41	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	06/02/22	06/02/22 13:41	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 13:41	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Carbon disulfide	0.16	J	ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	06/02/22	06/02/22 13:41	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	06/02/22	06/02/22 13:41	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
06/09/22 15:29

CELL 1 SVE INF

2060236-02 (Vapor)
Sample Date: 06/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 13:41	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 13:41	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 13:41	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Styrene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Toluene	0.36		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
06/09/22 15:29

CELL 1 SVE INF

2060236-02 (Vapor)
Sample Date: 06/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
m- & p-Xylenes	0.12	J	ug/L	0.20	0.10	0.1	06/02/22	06/02/22 13:41	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>70-130</i>	<i>104 %</i>	<i>06/02/22</i>		<i>06/02/22 13:41</i>		
<i>Surrogate: Toluene-d8</i>			<i>75-120</i>	<i>95 %</i>	<i>06/02/22</i>		<i>06/02/22 13:41</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>65-120</i>	<i>96 %</i>	<i>06/02/22</i>		<i>06/02/22 13:41</i>		

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
06/09/22 15:29

CELL 5 DPE INF

2060236-03 (Vapor)
Sample Date: 06/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatiles by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 14:06	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	06/02/22	06/02/22 14:06	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Benzene	0.66		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	06/02/22	06/02/22 14:06	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	06/02/22	06/02/22 14:06	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 14:06	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	06/02/22	06/02/22 14:06	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	06/02/22	06/02/22 14:06	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
06/09/22 15:29

CELL 5 DPE INF

2060236-03 (Vapor)
Sample Date: 06/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 14:06	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 14:06	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	06/02/22	06/02/22 14:06	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Styrene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Toluene	0.41		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
06/09/22 15:29

CELL 5 DPE INF

2060236-03 (Vapor)
Sample Date: 06/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
o-Xylene	0.15	J	ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
m- & p-Xylenes	0.50		ug/L	0.20	0.10	0.1	06/02/22	06/02/22 14:06	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>70-130</i>	<i>105 %</i>	<i>06/02/22</i>		<i>06/02/22 14:06</i>		
<i>Surrogate: Toluene-d8</i>			<i>75-120</i>	<i>96 %</i>	<i>06/02/22</i>		<i>06/02/22 14:06</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>65-120</i>	<i>97 %</i>	<i>06/02/22</i>		<i>06/02/22 14:06</i>		

Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
06/09/22 15:29

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte

Vapor 8260 (Full List) Acetone	Vapor 8260 (Full List) tert-Amyl alcohol (TAA)
Vapor 8260 (Full List) tert-Amyl ethyl ether (TAEE)	Vapor 8260 (Full List) tert-Amyl methyl ether (TAME)
Vapor 8260 (Full List) Benzene	Vapor 8260 (Full List) Bromobenzene
Vapor 8260 (Full List) Bromochloromethane	Vapor 8260 (Full List) Bromodichloromethane
Vapor 8260 (Full List) Bromoform	Vapor 8260 (Full List) Bromomethane
Vapor 8260 (Full List) tert-Butanol (TBA)	Vapor 8260 (Full List) 2-Butanone (MEK)
Vapor 8260 (Full List) n-Butylbenzene	Vapor 8260 (Full List) sec-Butylbenzene
Vapor 8260 (Full List) tert-Butylbenzene	Vapor 8260 (Full List) Carbon disulfide
Vapor 8260 (Full List) Carbon tetrachloride	Vapor 8260 (Full List) Chlorobenzene
Vapor 8260 (Full List) Chloroethane	Vapor 8260 (Full List) Chloroform
Vapor 8260 (Full List) Chloromethane	Vapor 8260 (Full List) 2-Chlorotoluene
Vapor 8260 (Full List) 4-Chlorotoluene	Vapor 8260 (Full List) 1,2-Dibromo-3-chloropropane
Vapor 8260 (Full List) Dibromochloromethane	Vapor 8260 (Full List) 1,2-Dibromoethane (EDB)
Vapor 8260 (Full List) Dibromomethane	Vapor 8260 (Full List) 1,2-Dichlorobenzene
Vapor 8260 (Full List) 1,3-Dichlorobenzene	Vapor 8260 (Full List) 1,4-Dichlorobenzene
Vapor 8260 (Full List) Dichlorodifluoromethane	Vapor 8260 (Full List) 1,1-Dichloroethane
Vapor 8260 (Full List) 1,2-Dichloroethane	Vapor 8260 (Full List) 1,1-Dichloroethene
Vapor 8260 (Full List) cis-1,2-Dichloroethene	Vapor 8260 (Full List) trans-1,2-Dichloroethene
Vapor 8260 (Full List) Dichlorofluoromethane	Vapor 8260 (Full List) 1,2-Dichloropropane
Vapor 8260 (Full List) 1,3-Dichloropropane	Vapor 8260 (Full List) 2,2-Dichloropropane
Vapor 8260 (Full List) 1,1-Dichloropropene	Vapor 8260 (Full List) cis-1,3-Dichloropropene
Vapor 8260 (Full List) trans-1,3-Dichloropropene	Vapor 8260 (Full List) Diisopropyl ether (DIPE)
Vapor 8260 (Full List) Ethyl tert-butyl ether (ETBE)	Vapor 8260 (Full List) Ethylbenzene
Vapor 8260 (Full List) Hexachlorobutadiene	Vapor 8260 (Full List) 2-Hexanone
Vapor 8260 (Full List) Isopropylbenzene (Cumene)	Vapor 8260 (Full List) 4-Isopropyltoluene
Vapor 8260 (Full List) Methyl tert-butyl ether (MTBE)	Vapor 8260 (Full List) 4-Methyl-2-pentanone
Vapor 8260 (Full List) Methylene chloride	Vapor 8260 (Full List) Naphthalene
Vapor 8260 (Full List) n-Propylbenzene	Vapor 8260 (Full List) Styrene
Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane	Vapor 8260 (Full List) 1,1,1,2,2-Tetrachloroethane
Vapor 8260 (Full List) Tetrachloroethene	Vapor 8260 (Full List) Toluene
Vapor 8260 (Full List) 1,2,3-Trichlorobenzene	Vapor 8260 (Full List) 1,2,4-Trichlorobenzene
Vapor 8260 (Full List) 1,1,1-Trichloroethane	Vapor 8260 (Full List) 1,1,2-Trichloroethane
Vapor 8260 (Full List) Trichloroethene	Vapor 8260 (Full List) Trichlorofluoromethane (Freon 11)

Will Brewington, President

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All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
06/09/22 15:29

Maryland Spectral Services

Matrix , Method , Analyte

Vapor | 8260 (Full List) | 1,2,3-Trichloropropane
Vapor | 8260 (Full List) | 1,3,5-Trimethylbenzene
Vapor | 8260 (Full List) | o-Xylene

Vapor | 8260 (Full List) | 1,2,4-Trimethylbenzene
Vapor | 8260 (Full List) | Vinyl chloride
Vapor | 8260 (Full List) | m- & p-Xylenes



Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Notes and Definitions

- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation

If this report contains any samples analyzed for gasoline range organics (GRO) by EPA Method 8015C and no trip blank was shipped, stored, and received with the sample(s) as required by Section 3.1 of the EPA Method, the sample analysis contained in this report cannot exclude the possibility that any reportable GRO measurement was due to environmental contamination of the sample during shipping or storage.



Will Brewington, President

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Company Name: Tradepoint Atlantic		Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219		Analysis Requested										CHAIN-OF-CUSTODY RECORD		
Project Name: Sparrows Point IM		Project Manager: Bob Tworkowski (443) 649-5073		No. of Containers FULL SUITE VOCs + NAPHTHALENE 8260										Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com		
Sampler(s): Guy Davis/ARM Group (443) 610-0211		Attention/Invoice: ap@tradepointatlantic.com												Matrix Codes: NW (non-potable water), DW (drinking water), SV (soil vapor)		
Field Sample ID	Date	Time	DW											Water	Soil	SV
CELL 3 SVE INF	6/1/22	0615				X			2060236-01							
CELL 1 SVE INF	↓	1205				X			- 02							
CELL 5 DPE INF	6/1/22	1215				X			- 03							
Relinquished by: (Signature) 		Date/Time 6/2/22 1200	Received by: (Signature) 		Relinquished by: (Signature)		Date/Time	Received by: (Signature)								
(Printed) Guy L Davis			(Printed) Lori Foster		(Printed)			(Printed)								
Relinquished by: (Signature)		Date/Time 6-2-22 12:00	Received by Lab: (Signature) 		Turn Around Time:			Lab Use:								
(Printed)			(Printed) Lori Foster		<input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____			Temp: _____ °C <input type="checkbox"/> Received on Ice <input type="checkbox"/> Received same day								
Delivery Method: <input checked="" type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		Special Instructions/QC Requirements & Comments: Please report to: Bob Tworkowski btworkowski@tradepointatlantic.com Guy Davis GDavis@armgroup.net Doug Hamilton DHamilton@armgroup.net			Sample Disposal: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for _____ days											

14 July 2022

Bob Tworkowski
Tradepoint Atlantic
6995 Bethlehem BLVD
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 07/06/22 13:16.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
07/14/22 14:06

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 3 SVE INF		2070609-01	Vapor	07/06/22 10:15	07/06/22 13:16
CELL 1 SVE INF		2070609-02	Vapor	07/06/22 10:45	07/06/22 13:16



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
07/14/22 14:06

CELL 3 SVE INF

2070609-01 (Vapor)
Sample Date: 07/06/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	07/07/22	07/07/22 13:00	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	07/07/22	07/07/22 13:00	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Benzene	0.23		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	07/07/22	07/07/22 13:00	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	07/07/22	07/07/22 13:00	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	07/07/22	07/07/22 13:00	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	07/07/22	07/07/22 13:00	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	07/07/22	07/07/22 13:00	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
07/14/22 14:06

CELL 3 SVE INF

2070609-01 (Vapor)
Sample Date: 07/06/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	07/07/22	07/07/22 13:00	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	07/07/22	07/07/22 13:00	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	07/07/22	07/07/22 13:00	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Styrene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Toluene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
07/14/22 14:06

CELL 3 SVE INF

2070609-01 (Vapor)
Sample Date: 07/06/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:00	LL
Surrogate: 1,2-Dichloroethane-d4		70-130		110 %			07/07/22	07/07/22 13:00	
Surrogate: Toluene-d8		75-120		107 %			07/07/22	07/07/22 13:00	
Surrogate: 4-Bromofluorobenzene		65-120		93 %			07/07/22	07/07/22 13:00	



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
07/14/22 14:06

CELL 1 SVE INF

2070609-02 (Vapor)
Sample Date: 07/06/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	07/07/22	07/07/22 13:25	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	07/07/22	07/07/22 13:25	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Benzene	4.26		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	07/07/22	07/07/22 13:25	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	07/07/22	07/07/22 13:25	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	07/07/22	07/07/22 13:25	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	07/07/22	07/07/22 13:25	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	07/07/22	07/07/22 13:25	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
07/14/22 14:06

CELL 1 SVE INF

2070609-02 (Vapor)
Sample Date: 07/06/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	07/07/22	07/07/22 13:25	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	07/07/22	07/07/22 13:25	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	07/07/22	07/07/22 13:25	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Styrene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Toluene	0.38		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
07/14/22 14:06

CELL 1 SVE INF

2070609-02 (Vapor)
Sample Date: 07/06/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	07/07/22	07/07/22 13:25	LL
Surrogate: 1,2-Dichloroethane-d4		70-130		116 %			07/07/22	07/07/22 13:25	
Surrogate: Toluene-d8		75-120		104 %			07/07/22	07/07/22 13:25	
Surrogate: 4-Bromofluorobenzene		65-120		91 %			07/07/22	07/07/22 13:25	



Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
07/14/22 14:06

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte

Vapor 8260 (Full List) Acetone	Vapor 8260 (Full List) tert-Amyl alcohol (TAA)
Vapor 8260 (Full List) tert-Amyl ethyl ether (TAEE)	Vapor 8260 (Full List) tert-Amyl methyl ether (TAME)
Vapor 8260 (Full List) Benzene	Vapor 8260 (Full List) Bromobenzene
Vapor 8260 (Full List) Bromochloromethane	Vapor 8260 (Full List) Bromodichloromethane
Vapor 8260 (Full List) Bromoform	Vapor 8260 (Full List) Bromomethane
Vapor 8260 (Full List) tert-Butanol (TBA)	Vapor 8260 (Full List) 2-Butanone (MEK)
Vapor 8260 (Full List) n-Butylbenzene	Vapor 8260 (Full List) sec-Butylbenzene
Vapor 8260 (Full List) tert-Butylbenzene	Vapor 8260 (Full List) Carbon disulfide
Vapor 8260 (Full List) Carbon tetrachloride	Vapor 8260 (Full List) Chlorobenzene
Vapor 8260 (Full List) Chloroethane	Vapor 8260 (Full List) Chloroform
Vapor 8260 (Full List) Chloromethane	Vapor 8260 (Full List) 2-Chlorotoluene
Vapor 8260 (Full List) 4-Chlorotoluene	Vapor 8260 (Full List) 1,2-Dibromo-3-chloropropane
Vapor 8260 (Full List) Dibromochloromethane	Vapor 8260 (Full List) 1,2-Dibromoethane (EDB)
Vapor 8260 (Full List) Dibromomethane	Vapor 8260 (Full List) 1,2-Dichlorobenzene
Vapor 8260 (Full List) 1,3-Dichlorobenzene	Vapor 8260 (Full List) 1,4-Dichlorobenzene
Vapor 8260 (Full List) Dichlorodifluoromethane	Vapor 8260 (Full List) 1,1-Dichloroethane
Vapor 8260 (Full List) 1,2-Dichloroethane	Vapor 8260 (Full List) 1,1-Dichloroethene
Vapor 8260 (Full List) cis-1,2-Dichloroethene	Vapor 8260 (Full List) trans-1,2-Dichloroethene
Vapor 8260 (Full List) Dichlorofluoromethane	Vapor 8260 (Full List) 1,2-Dichloropropane
Vapor 8260 (Full List) 1,3-Dichloropropane	Vapor 8260 (Full List) 2,2-Dichloropropane
Vapor 8260 (Full List) 1,1-Dichloropropene	Vapor 8260 (Full List) cis-1,3-Dichloropropene
Vapor 8260 (Full List) trans-1,3-Dichloropropene	Vapor 8260 (Full List) Diisopropyl ether (DIPE)
Vapor 8260 (Full List) Ethyl tert-butyl ether (ETBE)	Vapor 8260 (Full List) Ethylbenzene
Vapor 8260 (Full List) Hexachlorobutadiene	Vapor 8260 (Full List) 2-Hexanone
Vapor 8260 (Full List) Isopropylbenzene (Cumene)	Vapor 8260 (Full List) 4-Isopropyltoluene
Vapor 8260 (Full List) Methyl tert-butyl ether (MTBE)	Vapor 8260 (Full List) 4-Methyl-2-pentanone
Vapor 8260 (Full List) Methylene chloride	Vapor 8260 (Full List) Naphthalene
Vapor 8260 (Full List) n-Propylbenzene	Vapor 8260 (Full List) Styrene
Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane	Vapor 8260 (Full List) 1,1,1,2,2-Tetrachloroethane
Vapor 8260 (Full List) Tetrachloroethene	Vapor 8260 (Full List) Toluene
Vapor 8260 (Full List) 1,2,3-Trichlorobenzene	Vapor 8260 (Full List) 1,2,4-Trichlorobenzene
Vapor 8260 (Full List) 1,1,1-Trichloroethane	Vapor 8260 (Full List) 1,1,2-Trichloroethane
Vapor 8260 (Full List) Trichloroethene	Vapor 8260 (Full List) Trichlorofluoromethane (Freon 11)

Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
07/14/22 14:06

Maryland Spectral Services

Matrix , Method , Analyte

Vapor | 8260 (Full List) | 1,2,3-Trichloropropane
Vapor | 8260 (Full List) | 1,3,5-Trimethylbenzene
Vapor | 8260 (Full List) | o-Xylene

Vapor | 8260 (Full List) | 1,2,4-Trimethylbenzene
Vapor | 8260 (Full List) | Vinyl chloride
Vapor | 8260 (Full List) | m- & p-Xylenes



Will Brewington, President

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All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Notes and Definitions

- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation

If this report contains any samples analyzed for gasoline range organics (GRO) by EPA Method 8015C and no trip blank was shipped, stored, and received with the sample(s) as required by Section 3.1 of the EPA Method, the sample analysis contained in this report cannot exclude the possibility that any reportable GRO measurement was due to environmental contamination of the sample during shipping or storage.



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Company Name: Tradepoint Atlantic		Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219		Analysis Requested										CHAIN-OF-CUSTODY RECORD						
Project Name: Sparrows Point IM		Project Manager: Bob Tworkowski (443) 649-5073		FULL SUITE VOCs + NAPHTHALENE 8260										Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com						
Sampler(s): Guy Davis/ARM Group (443) 610-0211		Attention/Invoice: ap@tradepointatlantic.com												Matrix Codes: NW (non-potable water), DW (drinking water), SV (soil vapor)						
Field Sample ID	Date	Time	DW	Water	Soil	SV	No. of Containers											Preservative	Field Notes	MSS Lab ID
CELL 3 SVE INF	7/6/22	1015				<input checked="" type="checkbox"/>	1													2070609-01
CELL 1 SVE INF	7/6/22	1045				<input checked="" type="checkbox"/>	1													- 02
Relinquished by: (Signature) 		Date/Time 7/6/22 1320		Received by: (Signature) 		Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time		Received by: (Signature)		Date/Time				
(Printed) Guy L Davis				(Printed)		(Printed)														
Relinquished by: (Signature)		Date/Time 7-6-22		Received by Lab: (Signature) 		Turn Around Time:		Lab Use:		Temp: <u> </u> °C		Received on Ice		Received same day		Sample Disposal:				
(Printed)				(Printed) Lori Foster		<input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____		<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for _____ days												
Delivery Method: <input checked="" type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		Special Instructions/QC Requirements & Comments: Please report to: Bob Tworkowski btworkowski@tradepointatlantic.com Guy Davis GDavis@armgroup.net Doug Hamilton DHamilton@armgroup.net																		

08 August 2022

Bob Tworkowski
Tradepoint Atlantic
6995 Bethlehem BLVD
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 08/01/22 11:45.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
08/08/22 12:44

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 1 SVE INF		2080104-01	Vapor	08/01/22 08:20	08/01/22 11:45
CELL 3 SVE INF		2080104-02	Vapor	08/01/22 08:30	08/01/22 11:45



Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
08/08/22 12:44

CELL 1 SVE INF

2080104-01 (Vapor)
Sample Date: 08/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatiles by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	08/01/22	08/01/22 14:51	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	08/01/22	08/01/22 14:51	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Benzene	1.33		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	08/01/22	08/01/22 14:51	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	08/01/22	08/01/22 14:51	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	08/01/22	08/01/22 14:51	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	08/01/22	08/01/22 14:51	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	08/01/22	08/01/22 14:51	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
08/08/22 12:44

CELL 1 SVE INF

2080104-01 (Vapor)
Sample Date: 08/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	08/01/22	08/01/22 14:51	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	08/01/22	08/01/22 14:51	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	08/01/22	08/01/22 14:51	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Styrene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Toluene	0.13	J	ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
08/08/22 12:44

CELL 1 SVE INF

2080104-01 (Vapor)
Sample Date: 08/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 14:51	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>				70-130	95 %		08/01/22	08/01/22 14:51	
<i>Surrogate: Toluene-d8</i>				75-120	99 %		08/01/22	08/01/22 14:51	
<i>Surrogate: 4-Bromofluorobenzene</i>				65-120	86 %		08/01/22	08/01/22 14:51	



Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
08/08/22 12:44

CELL 3 SVE INF

2080104-02 (Vapor)
Sample Date: 08/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatiles by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	08/01/22	08/01/22 15:16	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	08/01/22	08/01/22 15:16	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Benzene	9.89		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	08/01/22	08/01/22 15:16	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	08/01/22	08/01/22 15:16	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	08/01/22	08/01/22 15:16	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	08/01/22	08/01/22 15:16	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	08/01/22	08/01/22 15:16	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
08/08/22 12:44

CELL 3 SVE INF

2080104-02 (Vapor)
Sample Date: 08/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	08/01/22	08/01/22 15:16	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	08/01/22	08/01/22 15:16	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	08/01/22	08/01/22 15:16	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Styrene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Toluene	0.67		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
08/08/22 12:44

CELL 3 SVE INF

2080104-02 (Vapor)
Sample Date: 08/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	08/01/22	08/01/22 15:16	LL
Surrogate: 1,2-Dichloroethane-d4		70-130		94 %	08/01/22		08/01/22 15:16		
Surrogate: Toluene-d8		75-120		101 %	08/01/22		08/01/22 15:16		
Surrogate: 4-Bromofluorobenzene		65-120		86 %	08/01/22		08/01/22 15:16		

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
08/08/22 12:44

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte

Vapor 8260 (Full List) Acetone	Vapor 8260 (Full List) tert-Amyl alcohol (TAA)
Vapor 8260 (Full List) tert-Amyl ethyl ether (TAEE)	Vapor 8260 (Full List) tert-Amyl methyl ether (TAME)
Vapor 8260 (Full List) Benzene	Vapor 8260 (Full List) Bromobenzene
Vapor 8260 (Full List) Bromochloromethane	Vapor 8260 (Full List) Bromodichloromethane
Vapor 8260 (Full List) Bromoform	Vapor 8260 (Full List) Bromomethane
Vapor 8260 (Full List) tert-Butanol (TBA)	Vapor 8260 (Full List) 2-Butanone (MEK)
Vapor 8260 (Full List) n-Butylbenzene	Vapor 8260 (Full List) sec-Butylbenzene
Vapor 8260 (Full List) tert-Butylbenzene	Vapor 8260 (Full List) Carbon disulfide
Vapor 8260 (Full List) Carbon tetrachloride	Vapor 8260 (Full List) Chlorobenzene
Vapor 8260 (Full List) Chloroethane	Vapor 8260 (Full List) Chloroform
Vapor 8260 (Full List) Chloromethane	Vapor 8260 (Full List) 2-Chlorotoluene
Vapor 8260 (Full List) 4-Chlorotoluene	Vapor 8260 (Full List) 1,2-Dibromo-3-chloropropane
Vapor 8260 (Full List) Dibromochloromethane	Vapor 8260 (Full List) 1,2-Dibromoethane (EDB)
Vapor 8260 (Full List) Dibromomethane	Vapor 8260 (Full List) 1,2-Dichlorobenzene
Vapor 8260 (Full List) 1,3-Dichlorobenzene	Vapor 8260 (Full List) 1,4-Dichlorobenzene
Vapor 8260 (Full List) Dichlorodifluoromethane	Vapor 8260 (Full List) 1,1-Dichloroethane
Vapor 8260 (Full List) 1,2-Dichloroethane	Vapor 8260 (Full List) 1,1-Dichloroethene
Vapor 8260 (Full List) cis-1,2-Dichloroethene	Vapor 8260 (Full List) trans-1,2-Dichloroethene
Vapor 8260 (Full List) Dichlorofluoromethane	Vapor 8260 (Full List) 1,2-Dichloropropane
Vapor 8260 (Full List) 1,3-Dichloropropane	Vapor 8260 (Full List) 2,2-Dichloropropane
Vapor 8260 (Full List) 1,1-Dichloropropene	Vapor 8260 (Full List) cis-1,3-Dichloropropene
Vapor 8260 (Full List) trans-1,3-Dichloropropene	Vapor 8260 (Full List) Diisopropyl ether (DIPE)
Vapor 8260 (Full List) Ethyl tert-butyl ether (ETBE)	Vapor 8260 (Full List) Ethylbenzene
Vapor 8260 (Full List) Hexachlorobutadiene	Vapor 8260 (Full List) 2-Hexanone
Vapor 8260 (Full List) Isopropylbenzene (Cumene)	Vapor 8260 (Full List) 4-Isopropyltoluene
Vapor 8260 (Full List) Methyl tert-butyl ether (MTBE)	Vapor 8260 (Full List) 4-Methyl-2-pentanone
Vapor 8260 (Full List) Methylene chloride	Vapor 8260 (Full List) Naphthalene
Vapor 8260 (Full List) n-Propylbenzene	Vapor 8260 (Full List) Styrene
Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane	Vapor 8260 (Full List) 1,1,2,2-Tetrachloroethane
Vapor 8260 (Full List) Tetrachloroethene	Vapor 8260 (Full List) Toluene
Vapor 8260 (Full List) 1,2,3-Trichlorobenzene	Vapor 8260 (Full List) 1,2,4-Trichlorobenzene
Vapor 8260 (Full List) 1,1,1-Trichloroethane	Vapor 8260 (Full List) 1,1,2-Trichloroethane
Vapor 8260 (Full List) Trichloroethene	Vapor 8260 (Full List) Trichlorofluoromethane (Freon 11)

Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
08/08/22 12:44

Maryland Spectral Services

Matrix , Method , Analyte

Vapor | 8260 (Full List) | 1,2,3-Trichloropropane
Vapor | 8260 (Full List) | 1,3,5-Trimethylbenzene
Vapor | 8260 (Full List) | o-Xylene

Vapor | 8260 (Full List) | 1,2,4-Trimethylbenzene
Vapor | 8260 (Full List) | Vinyl chloride
Vapor | 8260 (Full List) | m- & p-Xylenes



Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Notes and Definitions


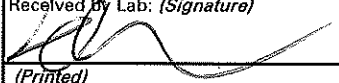

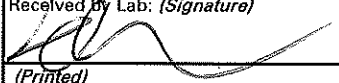
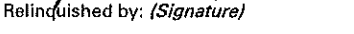
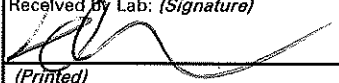
- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation

If this report contains any samples analyzed for gasoline range organics (GRO) by EPA Method 8015C and no trip blank was shipped, stored, and received with the sample(s) as required by Section 3.1 of the EPA Method, the sample analysis contained in this report cannot exclude the possibility that any reportable GRO measurement was due to environmental contamination of the sample during shipping or storage.



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Company Name: Tradepoint Atlantic		Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219					Analysis Requested										CHAIN-OF-CUSTODY RECORD									
Project Name: Sparrows Point IM		Project Manager: Bob Tworkowski (443) 649-5073					No. of Containers	FULL SUITE VOCs + NAPHTHALENE 8260																Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com		
Sampler(s): Guy Davis/ARM Group (443) 610-0211		Attention/Invoice: ap@tradepointatlantic.com																						Matrix Codes: NW (non-potable water), DW (drinking water), SV (soil vapor)		
Field Sample ID	Date	Time	DW	Water	Soil	SV																	Preservative	Field Notes	MSS Lab ID	
CELL 1 SVE INF	8/1/22	0830				X	1	X																2080104-01		
CELL 3 SVE INF	8/1/22	0830				X	1	X																- 02		
Relinquished by: (Signature) 		Date/Time 8/1/22/	Received by: (Signature) 					Relinquished by: (Signature) 					Date/Time	Received by: (Signature) 												
(Printed) Guy L Davis/ARM		1145	(Printed) Lori Foster					(Printed)						(Printed)												
Relinquished by: (Signature) 		Date/Time 11:45	Received by Lab: (Signature) 					Turn Around Time:					Lab Use:													
(Printed)		8-1-22	(Printed) Lori Foster					<input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____					Temp: _____ °C <input type="checkbox"/> Received on Ice <input checked="" type="checkbox"/> Received same day													
Delivery Method: <input checked="" type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		Special Instructions/QC Requirements & Comments: Please report to: Bob Tworkowski btworkowski@tradepointatlantic.com Guy Davis GDavis@armgroup.net Doug Hamilton DHamilton@armgroup.net										Sample Disposal: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for _____ days														

16 September 2022

Bob Tworkowski
Tradepoint Atlantic
6995 Bethlehem BLVD
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 09/08/22 10:53.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
09/16/22 12:17

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 3 SVE INF		2090809-01	Vapor	09/08/22 06:05	09/08/22 10:53
CELL 1 SVE INF		2090809-02	Vapor	09/08/22 07:05	09/08/22 10:53



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
09/16/22 12:17

CELL 3 SVE INF

2090809-01 (Vapor)
Sample Date: 09/08/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	09/08/22	09/08/22 12:39	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	09/08/22	09/08/22 12:39	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Benzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	09/08/22	09/08/22 12:39	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	09/08/22	09/08/22 12:39	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	09/08/22	09/08/22 12:39	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	09/08/22	09/08/22 12:39	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	09/08/22	09/08/22 12:39	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
09/16/22 12:17

CELL 3 SVE INF

2090809-01 (Vapor)
Sample Date: 09/08/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	09/08/22	09/08/22 12:39	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	09/08/22	09/08/22 12:39	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	09/08/22	09/08/22 12:39	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Styrene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Toluene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
09/16/22 12:17

CELL 3 SVE INF

2090809-01 (Vapor)
Sample Date: 09/08/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 12:39	LL
Surrogate: 1,2-Dichloroethane-d4		70-130		104 %	09/08/22		09/08/22 12:39		
Surrogate: Toluene-d8		75-120		102 %	09/08/22		09/08/22 12:39		
Surrogate: 4-Bromofluorobenzene		65-120		93 %	09/08/22		09/08/22 12:39		



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
09/16/22 12:17

CELL 1 SVE INF

2090809-02 (Vapor)
Sample Date: 09/08/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	09/08/22	09/08/22 15:07	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	09/08/22	09/08/22 15:07	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Benzene	1.21		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	09/08/22	09/08/22 15:07	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	09/08/22	09/08/22 15:07	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	09/08/22	09/08/22 15:07	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	09/08/22	09/08/22 15:07	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	09/08/22	09/08/22 15:07	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
09/16/22 12:17

CELL 1 SVE INF

2090809-02 (Vapor)
Sample Date: 09/08/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	09/08/22	09/08/22 15:07	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	09/08/22	09/08/22 15:07	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	09/08/22	09/08/22 15:07	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Styrene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Toluene	0.19	J	ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
09/16/22 12:17

CELL 1 SVE INF

2090809-02 (Vapor)
Sample Date: 09/08/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
m- & p-Xylenes	0.15	J	ug/L	0.20	0.10	0.1	09/08/22	09/08/22 15:07	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>70-130</i>	<i>104 %</i>	<i>09/08/22</i>		<i>09/08/22 15:07</i>		
<i>Surrogate: Toluene-d8</i>			<i>75-120</i>	<i>99 %</i>	<i>09/08/22</i>		<i>09/08/22 15:07</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>65-120</i>	<i>95 %</i>	<i>09/08/22</i>		<i>09/08/22 15:07</i>		



Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
09/16/22 12:17

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte

Vapor 8260 (Full List) Acetone	Vapor 8260 (Full List) tert-Amyl alcohol (TAA)
Vapor 8260 (Full List) tert-Amyl ethyl ether (TAEE)	Vapor 8260 (Full List) tert-Amyl methyl ether (TAME)
Vapor 8260 (Full List) Benzene	Vapor 8260 (Full List) Bromobenzene
Vapor 8260 (Full List) Bromochloromethane	Vapor 8260 (Full List) Bromodichloromethane
Vapor 8260 (Full List) Bromoform	Vapor 8260 (Full List) Bromomethane
Vapor 8260 (Full List) tert-Butanol (TBA)	Vapor 8260 (Full List) 2-Butanone (MEK)
Vapor 8260 (Full List) n-Butylbenzene	Vapor 8260 (Full List) sec-Butylbenzene
Vapor 8260 (Full List) tert-Butylbenzene	Vapor 8260 (Full List) Carbon disulfide
Vapor 8260 (Full List) Carbon tetrachloride	Vapor 8260 (Full List) Chlorobenzene
Vapor 8260 (Full List) Chloroethane	Vapor 8260 (Full List) Chloroform
Vapor 8260 (Full List) Chloromethane	Vapor 8260 (Full List) 2-Chlorotoluene
Vapor 8260 (Full List) 4-Chlorotoluene	Vapor 8260 (Full List) 1,2-Dibromo-3-chloropropane
Vapor 8260 (Full List) Dibromochloromethane	Vapor 8260 (Full List) 1,2-Dibromoethane (EDB)
Vapor 8260 (Full List) Dibromomethane	Vapor 8260 (Full List) 1,2-Dichlorobenzene
Vapor 8260 (Full List) 1,3-Dichlorobenzene	Vapor 8260 (Full List) 1,4-Dichlorobenzene
Vapor 8260 (Full List) Dichlorodifluoromethane	Vapor 8260 (Full List) 1,1-Dichloroethane
Vapor 8260 (Full List) 1,2-Dichloroethane	Vapor 8260 (Full List) 1,1-Dichloroethene
Vapor 8260 (Full List) cis-1,2-Dichloroethene	Vapor 8260 (Full List) trans-1,2-Dichloroethene
Vapor 8260 (Full List) Dichlorofluoromethane	Vapor 8260 (Full List) 1,2-Dichloropropane
Vapor 8260 (Full List) 1,3-Dichloropropane	Vapor 8260 (Full List) 2,2-Dichloropropane
Vapor 8260 (Full List) 1,1-Dichloropropene	Vapor 8260 (Full List) cis-1,3-Dichloropropene
Vapor 8260 (Full List) trans-1,3-Dichloropropene	Vapor 8260 (Full List) Diisopropyl ether (DIPE)
Vapor 8260 (Full List) Ethyl tert-butyl ether (ETBE)	Vapor 8260 (Full List) Ethylbenzene
Vapor 8260 (Full List) Hexachlorobutadiene	Vapor 8260 (Full List) 2-Hexanone
Vapor 8260 (Full List) Isopropylbenzene (Cumene)	Vapor 8260 (Full List) 4-Isopropyltoluene
Vapor 8260 (Full List) Methyl tert-butyl ether (MTBE)	Vapor 8260 (Full List) 4-Methyl-2-pentanone
Vapor 8260 (Full List) Methylene chloride	Vapor 8260 (Full List) Naphthalene
Vapor 8260 (Full List) n-Propylbenzene	Vapor 8260 (Full List) Styrene
Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane	Vapor 8260 (Full List) 1,1,1,2,2-Tetrachloroethane
Vapor 8260 (Full List) Tetrachloroethene	Vapor 8260 (Full List) Toluene
Vapor 8260 (Full List) 1,2,3-Trichlorobenzene	Vapor 8260 (Full List) 1,2,4-Trichlorobenzene
Vapor 8260 (Full List) 1,1,1-Trichloroethane	Vapor 8260 (Full List) 1,1,2-Trichloroethane
Vapor 8260 (Full List) Trichloroethene	Vapor 8260 (Full List) Trichlorofluoromethane (Freon 11)

Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
09/16/22 12:17

Maryland Spectral Services

Matrix , Method , Analyte

Vapor | 8260 (Full List) | 1,2,3-Trichloropropane
Vapor | 8260 (Full List) | 1,3,5-Trimethylbenzene
Vapor | 8260 (Full List) | o-Xylene

Vapor | 8260 (Full List) | 1,2,4-Trimethylbenzene
Vapor | 8260 (Full List) | Vinyl chloride
Vapor | 8260 (Full List) | m- & p-Xylenes



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
09/16/22 12:17

Notes and Definitions



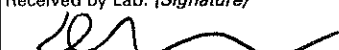
- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation

If this report contains any samples analyzed for gasoline range organics (GRO) by EPA Method 8015C and no trip blank was shipped, stored, and received with the sample(s) as required by Section 3.1 of the EPA Method, the sample analysis contained in this report cannot exclude the possibility that any reportable GRO measurement was due to environmental contamination of the sample during shipping or storage.



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Company Name: Tradepoint Atlantic		Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219		Analysis Requested										CHAIN-OF-CUSTODY RECORD				
Project Name: Sparrows Point IM		Project Manager: Bob Tworkowski (443) 649-5073		No. of Containers FULL SUITE VOCs + NAPHTHALENE 8260										Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com				
Sampler(s): Guy Davis/ARM Group (443) 610-0211		Attention/Invoice: ap@tradepointatlantic.com												Matrix Codes: NW (non-potable water), DW (drinking water), SV (soil vapor)				
Field Sample ID	Date	Time	DW	Water	Soil	SV										Preservative	Field Notes	MSS Lab ID
CELL 3 SVE INF	9/8/22	0605				X	-	X										2.090809 - 01
CELL 1 SVE INF	9/8/22	0705				X	-	X										- 02
Relinquished by: (Signature) 		Date/Time 9/8/22	Received by: (Signature) 		Relinquished by: (Signature)		Date/Time	Received by: (Signature)										
(Printed) Guy L Davis			(Printed)		(Printed)			(Printed)										
Relinquished by: (Signature)		Date/Time 9-8-22	Received by Lab: (Signature) 		Turn Around Time:		Lab Use:											
(Printed)		10:53	(Printed) Lori Foster		<input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____		Temp: ___ °C <input type="checkbox"/> Received on Ice <input checked="" type="checkbox"/> Received same day											
Delivery Method: <input checked="" type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____	Special Instructions/QC Requirements & Comments: Please report to: Bob Tworkowski btworkowski@tradepointatlantic.com Guy Davis GDavis@armgroup.net Doug Hamilton DHamilton@armgroup.net						Sample Disposal: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for ___ days											

11 October 2022

Bob Tworkowski
Tradepoint Atlantic
6995 Bethlehem BLVD
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 10/05/22 09:15.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
10/11/22 16:33

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 3 SVE INF		2100502-01	Vapor	10/05/22 07:05	10/05/22 09:15



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
10/11/22 16:33

CELL 3 SVE INF

2100502-01 (Vapor)
Sample Date: 10/05/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatiles by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	10/05/22	10/05/22 13:20	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	10/05/22	10/05/22 13:20	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Benzene	0.29		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	10/05/22	10/05/22 13:20	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	10/05/22	10/05/22 13:20	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	10/05/22	10/05/22 13:20	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	10/05/22	10/05/22 13:20	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	10/05/22	10/05/22 13:20	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
10/11/22 16:33

CELL 3 SVE INF

2100502-01 (Vapor)
Sample Date: 10/05/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	10/05/22	10/05/22 13:20	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	10/05/22	10/05/22 13:20	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	10/05/22	10/05/22 13:20	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Styrene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Toluene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
10/11/22 16:33

CELL 3 SVE INF

2100502-01 (Vapor)
Sample Date: 10/05/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	10/05/22	10/05/22 13:20	LL
Surrogate: 1,2-Dichloroethane-d4		70-130		107 %	10/05/22		10/05/22 13:20		
Surrogate: Toluene-d8		75-120		102 %	10/05/22		10/05/22 13:20		
Surrogate: 4-Bromofluorobenzene		65-120		97 %	10/05/22		10/05/22 13:20		

Will Brewington, President

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All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
10/11/22 16:33

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte

Vapor 8260 (Full List) Acetone	Vapor 8260 (Full List) tert-Amyl alcohol (TAA)
Vapor 8260 (Full List) tert-Amyl ethyl ether (TAEE)	Vapor 8260 (Full List) tert-Amyl methyl ether (TAME)
Vapor 8260 (Full List) Benzene	Vapor 8260 (Full List) Bromobenzene
Vapor 8260 (Full List) Bromochloromethane	Vapor 8260 (Full List) Bromodichloromethane
Vapor 8260 (Full List) Bromoform	Vapor 8260 (Full List) Bromomethane
Vapor 8260 (Full List) tert-Butanol (TBA)	Vapor 8260 (Full List) 2-Butanone (MEK)
Vapor 8260 (Full List) n-Butylbenzene	Vapor 8260 (Full List) sec-Butylbenzene
Vapor 8260 (Full List) tert-Butylbenzene	Vapor 8260 (Full List) Carbon disulfide
Vapor 8260 (Full List) Carbon tetrachloride	Vapor 8260 (Full List) Chlorobenzene
Vapor 8260 (Full List) Chloroethane	Vapor 8260 (Full List) Chloroform
Vapor 8260 (Full List) Chloromethane	Vapor 8260 (Full List) 2-Chlorotoluene
Vapor 8260 (Full List) 4-Chlorotoluene	Vapor 8260 (Full List) 1,2-Dibromo-3-chloropropane
Vapor 8260 (Full List) Dibromochloromethane	Vapor 8260 (Full List) 1,2-Dibromoethane (EDB)
Vapor 8260 (Full List) Dibromomethane	Vapor 8260 (Full List) 1,2-Dichlorobenzene
Vapor 8260 (Full List) 1,3-Dichlorobenzene	Vapor 8260 (Full List) 1,4-Dichlorobenzene
Vapor 8260 (Full List) Dichlorodifluoromethane	Vapor 8260 (Full List) 1,1-Dichloroethane
Vapor 8260 (Full List) 1,2-Dichloroethane	Vapor 8260 (Full List) 1,1-Dichloroethene
Vapor 8260 (Full List) cis-1,2-Dichloroethene	Vapor 8260 (Full List) trans-1,2-Dichloroethene
Vapor 8260 (Full List) Dichlorofluoromethane	Vapor 8260 (Full List) 1,2-Dichloropropane
Vapor 8260 (Full List) 1,3-Dichloropropane	Vapor 8260 (Full List) 2,2-Dichloropropane
Vapor 8260 (Full List) 1,1-Dichloropropene	Vapor 8260 (Full List) cis-1,3-Dichloropropene
Vapor 8260 (Full List) trans-1,3-Dichloropropene	Vapor 8260 (Full List) Diisopropyl ether (DIPE)
Vapor 8260 (Full List) Ethyl tert-butyl ether (ETBE)	Vapor 8260 (Full List) Ethylbenzene
Vapor 8260 (Full List) Hexachlorobutadiene	Vapor 8260 (Full List) 2-Hexanone
Vapor 8260 (Full List) Isopropylbenzene (Cumene)	Vapor 8260 (Full List) 4-Isopropyltoluene
Vapor 8260 (Full List) Methyl tert-butyl ether (MTBE)	Vapor 8260 (Full List) 4-Methyl-2-pentanone
Vapor 8260 (Full List) Methylene chloride	Vapor 8260 (Full List) Naphthalene
Vapor 8260 (Full List) n-Propylbenzene	Vapor 8260 (Full List) Styrene
Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane	Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane
Vapor 8260 (Full List) Tetrachloroethene	Vapor 8260 (Full List) Toluene
Vapor 8260 (Full List) 1,2,3-Trichlorobenzene	Vapor 8260 (Full List) 1,2,4-Trichlorobenzene
Vapor 8260 (Full List) 1,1,1-Trichloroethane	Vapor 8260 (Full List) 1,1,2-Trichloroethane
Vapor 8260 (Full List) Trichloroethene	Vapor 8260 (Full List) Trichlorofluoromethane (Freon 11)



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
10/11/22 16:33

Maryland Spectral Services

Matrix , Method , Analyte

Vapor | 8260 (Full List) | 1,2,3-Trichloropropane
Vapor | 8260 (Full List) | 1,3,5-Trimethylbenzene
Vapor | 8260 (Full List) | o-Xylene

Vapor | 8260 (Full List) | 1,2,4-Trimethylbenzene
Vapor | 8260 (Full List) | Vinyl chloride
Vapor | 8260 (Full List) | m- & p-Xylenes



Will Brewington, President

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All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
10/11/22 16:33

Notes and Definitions

- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation

If this report contains any samples analyzed for gasoline range organics (GRO) by EPA Method 8015C and no trip blank was shipped, stored, and received with the sample(s) as required by Section 3.1 of the EPA Method, the sample analysis contained in this report cannot exclude the possibility that any reportable GRO measurement was due to environmental contamination of the sample during shipping or storage.



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Company Name: Tradepoint Atlantic		Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219				Analysis Requested													CHAIN-OF-CUSTODY RECORD Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com							
Project Name: Sparrows Point IM		Project Manager: Bob Tworkowski (443) 649-5073				No. of Containers	FULL SUITE VOCs + NAPHTHALENE 8260																			
Sampler(s): Guy Davis/ARM Group (443) 610-0211		Attention/Invoice: ap@tradepointatlantic.com																								
Field Sample ID	Date	Time	DW	Water	Soil			SV																		
CELL 3 SUE INF	10/15/22	0705						X	1	X															2100502-01	
Relinquished by: (Signature)		Date/Time		Received by: (Signature)				Relinquished by: (Signature)			Date/Time		Received by: (Signature)													
		10/15/22																								
(Printed)		0915		(Printed)			(Printed)			(Printed)		(Printed)														
Guy L Davis/ARM																										
Relinquished by: (Signature)		Date/Time		Received by Lab: (Signature)			Turn Around Time:			Lab Use:																
		10-5-22					<input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____			Temp: ___ °C <input type="checkbox"/> Received on Ice <input checked="" type="checkbox"/> Received same day																
(Printed)		9:15		Lori Foster																						
Delivery Method:		Special Instructions/QC Requirements & Comments:										Sample Disposal:														
<input checked="" type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		Please report to: Bob Tworkowski btworkowski@tradepointatlantic.com Guy Davis GDavis@armgroup.net Doug Hamilton DHamilton@armgroup.net										<input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for ____ days														

20 October 2022

Bob Tworkowski
Tradepoint Atlantic
6995 Bethlehem BLVD
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 10/12/22 11:15.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
10/20/22 15:32

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 1 SVE INF		2101203-01	Vapor	10/12/22 10:40	10/12/22 11:15



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
10/20/22 15:32

CELL 1 SVE INF

2101203-01 (Vapor)
Sample Date: 10/12/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatiles by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	10/13/22	10/13/22 12:16	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	10/13/22	10/13/22 12:16	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Benzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	10/13/22	10/13/22 12:16	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	10/13/22	10/13/22 12:16	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	10/13/22	10/13/22 12:16	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	10/13/22	10/13/22 12:16	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	10/13/22	10/13/22 12:16	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
10/20/22 15:32

CELL 1 SVE INF

2101203-01 (Vapor)
Sample Date: 10/12/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	10/13/22	10/13/22 12:16	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	10/13/22	10/13/22 12:16	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	10/13/22	10/13/22 12:16	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Styrene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Toluene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
10/20/22 15:32

CELL 1 SVE INF

2101203-01 (Vapor)
Sample Date: 10/12/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	10/13/22	10/13/22 12:16	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>				70-130	102 %		10/13/22	10/13/22 12:16	
<i>Surrogate: Toluene-d8</i>				75-120	99 %		10/13/22	10/13/22 12:16	
<i>Surrogate: 4-Bromofluorobenzene</i>				65-120	101 %		10/13/22	10/13/22 12:16	

Will Brewington, President

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All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
10/20/22 15:32

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte

Vapor 8260 (Full List) Acetone	Vapor 8260 (Full List) tert-Amyl alcohol (TAA)
Vapor 8260 (Full List) tert-Amyl ethyl ether (TAEE)	Vapor 8260 (Full List) tert-Amyl methyl ether (TAME)
Vapor 8260 (Full List) Benzene	Vapor 8260 (Full List) Bromobenzene
Vapor 8260 (Full List) Bromochloromethane	Vapor 8260 (Full List) Bromodichloromethane
Vapor 8260 (Full List) Bromoform	Vapor 8260 (Full List) Bromomethane
Vapor 8260 (Full List) tert-Butanol (TBA)	Vapor 8260 (Full List) 2-Butanone (MEK)
Vapor 8260 (Full List) n-Butylbenzene	Vapor 8260 (Full List) sec-Butylbenzene
Vapor 8260 (Full List) tert-Butylbenzene	Vapor 8260 (Full List) Carbon disulfide
Vapor 8260 (Full List) Carbon tetrachloride	Vapor 8260 (Full List) Chlorobenzene
Vapor 8260 (Full List) Chloroethane	Vapor 8260 (Full List) Chloroform
Vapor 8260 (Full List) Chloromethane	Vapor 8260 (Full List) 2-Chlorotoluene
Vapor 8260 (Full List) 4-Chlorotoluene	Vapor 8260 (Full List) 1,2-Dibromo-3-chloropropane
Vapor 8260 (Full List) Dibromochloromethane	Vapor 8260 (Full List) 1,2-Dibromoethane (EDB)
Vapor 8260 (Full List) Dibromomethane	Vapor 8260 (Full List) 1,2-Dichlorobenzene
Vapor 8260 (Full List) 1,3-Dichlorobenzene	Vapor 8260 (Full List) 1,4-Dichlorobenzene
Vapor 8260 (Full List) Dichlorodifluoromethane	Vapor 8260 (Full List) 1,1-Dichloroethane
Vapor 8260 (Full List) 1,2-Dichloroethane	Vapor 8260 (Full List) 1,1-Dichloroethene
Vapor 8260 (Full List) cis-1,2-Dichloroethene	Vapor 8260 (Full List) trans-1,2-Dichloroethene
Vapor 8260 (Full List) Dichlorofluoromethane	Vapor 8260 (Full List) 1,2-Dichloropropane
Vapor 8260 (Full List) 1,3-Dichloropropane	Vapor 8260 (Full List) 2,2-Dichloropropane
Vapor 8260 (Full List) 1,1-Dichloropropene	Vapor 8260 (Full List) cis-1,3-Dichloropropene
Vapor 8260 (Full List) trans-1,3-Dichloropropene	Vapor 8260 (Full List) Diisopropyl ether (DIPE)
Vapor 8260 (Full List) Ethyl tert-butyl ether (ETBE)	Vapor 8260 (Full List) Ethylbenzene
Vapor 8260 (Full List) Hexachlorobutadiene	Vapor 8260 (Full List) 2-Hexanone
Vapor 8260 (Full List) Isopropylbenzene (Cumene)	Vapor 8260 (Full List) 4-Isopropyltoluene
Vapor 8260 (Full List) Methyl tert-butyl ether (MTBE)	Vapor 8260 (Full List) 4-Methyl-2-pentanone
Vapor 8260 (Full List) Methylene chloride	Vapor 8260 (Full List) Naphthalene
Vapor 8260 (Full List) n-Propylbenzene	Vapor 8260 (Full List) Styrene
Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane	Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane
Vapor 8260 (Full List) Tetrachloroethene	Vapor 8260 (Full List) Toluene
Vapor 8260 (Full List) 1,2,3-Trichlorobenzene	Vapor 8260 (Full List) 1,2,4-Trichlorobenzene
Vapor 8260 (Full List) 1,1,1-Trichloroethane	Vapor 8260 (Full List) 1,1,2-Trichloroethane
Vapor 8260 (Full List) Trichloroethene	Vapor 8260 (Full List) Trichlorofluoromethane (Freon 11)



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
10/20/22 15:32

Maryland Spectral Services

Matrix , Method , Analyte

Vapor | 8260 (Full List) | 1,2,3-Trichloropropane

Vapor | 8260 (Full List) | 1,3,5-Trimethylbenzene

Vapor | 8260 (Full List) | o-Xylene

Vapor | 8260 (Full List) | 1,2,4-Trimethylbenzene

Vapor | 8260 (Full List) | Vinyl chloride

Vapor | 8260 (Full List) | m- & p-Xylenes

Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
10/20/22 15:32

Notes and Definitions





- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation

If this report contains any samples analyzed for gasoline range organics (GRO) by EPA Method 8015C and no trip blank was shipped, stored, and received with the sample(s) as required by Section 3.1 of the EPA Method, the sample analysis contained in this report cannot exclude the possibility that any reportable GRO measurement was due to environmental contamination of the sample during shipping or storage.



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Company Name: Tradepoint Atlantic		Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219		Analysis Requested										CHAIN-OF-CUSTODY RECORD					
Project Name: Sparrows Point IM		Project Manager: Bob Tworkowski (443) 649-5073		No. of Containers FULL SUITE VOCs + NAPHTHALENE 8260										Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com					
Sampler(s): Guy Davis/ARM Group (443) 610-0211		Attention/Invoice: ap@tradepointatlantic.com												Matrix Codes: NW (non-potable water), DW (drinking water), SV (soil vapor)					
Field Sample ID	Date	Time	DW	Water	Soil	SV	No. of Containers	FULL SUITE VOCs + NAPHTHALENE 8260									Preservative	Field Notes	MSS Lab ID
CELL 1 SVE INF	10/12/02	1040				X	1	X											2101203-01
Relinquished by: (Signature) 		Date/Time 10/12/02/1115		Received by: (Signature) 		Relinquished by: (Signature) 		Date/Time 10-12-22 11:15		Received by Lab: (Signature) 		Turn Around Time: <input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____		Lab Use: Temp: _____ °C <input type="checkbox"/> Received on Ice <input checked="" type="checkbox"/> Received same day					
Delivery Method: <input checked="" type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		Special Instructions/QC Requirements & Comments: Please report to: Bob Tworkowski btworkowski@tradepointatlantic.com Guy Davis GDavis@armgroup.net Doug Hamilton DHamilton@armgroup.net										Sample Disposal: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for _____ days							

08 November 2022

Bob Tworkowski
Tradepoint Atlantic
6995 Bethlehem BLVD
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 11/01/22 09:10.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
11/08/22 11:33

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 1 SVE INF		2110101-01	Vapor	11/01/22 07:50	11/01/22 09:10
CELL 3 SVE INF		2110101-02	Vapor	11/01/22 08:05	11/01/22 09:10



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
11/08/22 11:33

CELL 1 SVE INF

2110101-01 (Vapor)
Sample Date: 11/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatiles by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	11/01/22	11/01/22 12:06	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	11/01/22	11/01/22 12:06	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Benzene	1.54		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	11/01/22	11/01/22 12:06	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	11/01/22	11/01/22 12:06	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	11/01/22	11/01/22 12:06	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	11/01/22	11/01/22 12:06	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	11/01/22	11/01/22 12:06	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
11/08/22 11:33

CELL 1 SVE INF

2110101-01 (Vapor)
Sample Date: 11/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	11/01/22	11/01/22 12:06	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	11/01/22	11/01/22 12:06	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	11/01/22	11/01/22 12:06	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Styrene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Toluene	0.24		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
11/08/22 11:33

CELL 1 SVE INF

2110101-01 (Vapor)
Sample Date: 11/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 12:06	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>70-130</i>	<i>105 %</i>	<i>11/01/22</i>		<i>11/01/22 12:06</i>		
<i>Surrogate: Toluene-d8</i>			<i>75-120</i>	<i>98 %</i>	<i>11/01/22</i>		<i>11/01/22 12:06</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>65-120</i>	<i>101 %</i>	<i>11/01/22</i>		<i>11/01/22 12:06</i>		



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
11/08/22 11:33

CELL 3 SVE INF

2110101-02 (Vapor)
Sample Date: 11/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	1.24		ug/L	1.00	1.00	0.1	11/01/22	11/01/22 13:20	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	11/01/22	11/01/22 13:20	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Benzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	11/01/22	11/01/22 13:20	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	11/01/22	11/01/22 13:20	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	11/01/22	11/01/22 13:20	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	11/01/22	11/01/22 13:20	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	11/01/22	11/01/22 13:20	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
11/08/22 11:33

CELL 3 SVE INF

2110101-02 (Vapor)
Sample Date: 11/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	11/01/22	11/01/22 13:20	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	11/01/22	11/01/22 13:20	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	11/01/22	11/01/22 13:20	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Styrene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Toluene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
11/08/22 11:33

CELL 3 SVE INF

2110101-02 (Vapor)
Sample Date: 11/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	11/01/22	11/01/22 13:20	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>70-130</i>	<i>103 %</i>	<i>11/01/22</i>		<i>11/01/22 13:20</i>		
<i>Surrogate: Toluene-d8</i>			<i>75-120</i>	<i>101 %</i>	<i>11/01/22</i>		<i>11/01/22 13:20</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>65-120</i>	<i>101 %</i>	<i>11/01/22</i>		<i>11/01/22 13:20</i>		

Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
11/08/22 11:33

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte

Vapor 8260 (Full List) Acetone	Vapor 8260 (Full List) tert-Amyl alcohol (TAA)
Vapor 8260 (Full List) tert-Amyl ethyl ether (TAEE)	Vapor 8260 (Full List) tert-Amyl methyl ether (TAME)
Vapor 8260 (Full List) Benzene	Vapor 8260 (Full List) Bromobenzene
Vapor 8260 (Full List) Bromochloromethane	Vapor 8260 (Full List) Bromodichloromethane
Vapor 8260 (Full List) Bromoform	Vapor 8260 (Full List) Bromomethane
Vapor 8260 (Full List) tert-Butanol (TBA)	Vapor 8260 (Full List) 2-Butanone (MEK)
Vapor 8260 (Full List) n-Butylbenzene	Vapor 8260 (Full List) sec-Butylbenzene
Vapor 8260 (Full List) tert-Butylbenzene	Vapor 8260 (Full List) Carbon disulfide
Vapor 8260 (Full List) Carbon tetrachloride	Vapor 8260 (Full List) Chlorobenzene
Vapor 8260 (Full List) Chloroethane	Vapor 8260 (Full List) Chloroform
Vapor 8260 (Full List) Chloromethane	Vapor 8260 (Full List) 2-Chlorotoluene
Vapor 8260 (Full List) 4-Chlorotoluene	Vapor 8260 (Full List) 1,2-Dibromo-3-chloropropane
Vapor 8260 (Full List) Dibromochloromethane	Vapor 8260 (Full List) 1,2-Dibromoethane (EDB)
Vapor 8260 (Full List) Dibromomethane	Vapor 8260 (Full List) 1,2-Dichlorobenzene
Vapor 8260 (Full List) 1,3-Dichlorobenzene	Vapor 8260 (Full List) 1,4-Dichlorobenzene
Vapor 8260 (Full List) Dichlorodifluoromethane	Vapor 8260 (Full List) 1,1-Dichloroethane
Vapor 8260 (Full List) 1,2-Dichloroethane	Vapor 8260 (Full List) 1,1-Dichloroethene
Vapor 8260 (Full List) cis-1,2-Dichloroethene	Vapor 8260 (Full List) trans-1,2-Dichloroethene
Vapor 8260 (Full List) Dichlorofluoromethane	Vapor 8260 (Full List) 1,2-Dichloropropane
Vapor 8260 (Full List) 1,3-Dichloropropane	Vapor 8260 (Full List) 2,2-Dichloropropane
Vapor 8260 (Full List) 1,1-Dichloropropene	Vapor 8260 (Full List) cis-1,3-Dichloropropene
Vapor 8260 (Full List) trans-1,3-Dichloropropene	Vapor 8260 (Full List) Diisopropyl ether (DIPE)
Vapor 8260 (Full List) Ethyl tert-butyl ether (ETBE)	Vapor 8260 (Full List) Ethylbenzene
Vapor 8260 (Full List) Hexachlorobutadiene	Vapor 8260 (Full List) 2-Hexanone
Vapor 8260 (Full List) Isopropylbenzene (Cumene)	Vapor 8260 (Full List) 4-Isopropyltoluene
Vapor 8260 (Full List) Methyl tert-butyl ether (MTBE)	Vapor 8260 (Full List) 4-Methyl-2-pentanone
Vapor 8260 (Full List) Methylene chloride	Vapor 8260 (Full List) Naphthalene
Vapor 8260 (Full List) n-Propylbenzene	Vapor 8260 (Full List) Styrene
Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane	Vapor 8260 (Full List) 1,1,1,2,2-Tetrachloroethane
Vapor 8260 (Full List) Tetrachloroethene	Vapor 8260 (Full List) Toluene
Vapor 8260 (Full List) 1,2,3-Trichlorobenzene	Vapor 8260 (Full List) 1,2,4-Trichlorobenzene
Vapor 8260 (Full List) 1,1,1-Trichloroethane	Vapor 8260 (Full List) 1,1,2-Trichloroethane
Vapor 8260 (Full List) Trichloroethene	Vapor 8260 (Full List) Trichlorofluoromethane (Freon 11)

Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
11/08/22 11:33

Maryland Spectral Services

Matrix , Method , Analyte

Vapor | 8260 (Full List) | 1,2,3-Trichloropropane
Vapor | 8260 (Full List) | 1,3,5-Trimethylbenzene
Vapor | 8260 (Full List) | o-Xylene

Vapor | 8260 (Full List) | 1,2,4-Trimethylbenzene
Vapor | 8260 (Full List) | Vinyl chloride
Vapor | 8260 (Full List) | m- & p-Xylenes



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Notes and Definitions

- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation

If this report contains any samples analyzed for gasoline range organics (GRO) by EPA Method 8015C and no trip blank was shipped, stored, and received with the sample(s) as required by Section 3.1 of the EPA Method, the sample analysis contained in this report cannot exclude the possibility that any reportable GRO measurement was due to environmental contamination of the sample during shipping or storage.



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

Maryland Spectral Services, Inc.
1500 Caton Center Drive, Suite G
Baltimore, MD 21227
410-247-7600 • Fax 410-247-7602
reporting@mdspectral.com

Matrix Codes: NW (non-potable water), DW (drinking water), SV (soil vapor)

Preservative	Field Notes	MSS Lab ID
		2110101-01
		-02

Company Name: Tradepoint Atlantic
Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219
Project Name: Sparrows Point IM
Project Manager: Bob Tworowski (443) 649-5073
Sampler(s): Guy Davis/ARM Group (443) 610-0211
Attention/Invoice: ap@tradepointatlantic.com

Analysis Requested

Analysis Requested	Date/Time	Received by: (Signature)	Received by: (Printed)
FULL SUITE VOCs + NAPHTHALENE 8260			

Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219
Project Manager: Bob Tworowski (443) 649-5073
Attention/Invoice: ap@tradepointatlantic.com

Field Sample ID

Field Sample ID	Date	Time	DW	Water	Soil	SV	No. of Containers
CELL 1 SVE INF	11/12/22	07:50				X	1
CELL 3 SVE INF	11/12/22	08:05				X	1

Company Name: Tradepoint Atlantic
Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219
Project Manager: Bob Tworowski (443) 649-5073
Attention/Invoice: ap@tradepointatlantic.com

Field Sample ID

Field Sample ID	Date	Time	DW	Water	Soil	SV	No. of Containers
CELL 1 SVE INF	11/12/22	07:50				X	1
CELL 3 SVE INF	11/12/22	08:05				X	1

Relinquished by: (Signature) *[Signature]*
Received by: (Signature) *[Signature]*
Date/Time: 11/12/22 09:10

Lab Use:
Temp: ____ °C
 Received on Ice
 Received same day

Delivery Method:
 Courier
 Client
 UPS
 FedEx
 USPS
 Other: _____

Special Instructions/QC Requirements & Comments:
Please report to:
Bob Tworowski btworkowski@tradepointatlantic.com
Guy Davis GDavis@armgroup.net
Doug Hamilton DHamilton@armgroup.net

Page 12 of 12

07 December 2022

Bob Tworkowski
Tradepoint Atlantic
6995 Bethlehem BLVD
Baltimore, MD 21219
RE: SPARROWS POINT IM

Enclosed are the results of analyses for samples received by the laboratory on 12/01/22 10:50.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

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

Sincerely,



Will Brewington
President

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
12/07/22 11:43

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CELL 5 DPE INF		2120103-01	Vapor	12/01/22 07:35	12/01/22 10:50
CELL 3 SVE INF		2120103-02	Vapor	12/01/22 09:15	12/01/22 10:50
CELL 1 SVE INF		2120103-03	Vapor	12/01/22 09:35	12/01/22 10:50



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
12/07/22 11:43

CELL 5 DPE INF

2120103-01 (Vapor)
Sample Date: 12/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatiles Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 12:55	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	12/01/22	12/01/22 12:55	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Benzene	0.56		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	12/01/22	12/01/22 12:55	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	12/01/22	12/01/22 12:55	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 12:55	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	12/01/22	12/01/22 12:55	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	12/01/22	12/01/22 12:55	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
12/07/22 11:43

CELL 5 DPE INF

2120103-01 (Vapor)
Sample Date: 12/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 12:55	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 12:55	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 12:55	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Styrene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Toluene	0.36		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
12/07/22 11:43

CELL 5 DPE INF

2120103-01 (Vapor)
Sample Date: 12/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
o-Xylene	0.12	J	ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
m- & p-Xylenes	0.42		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 12:55	LL
Surrogate: 1,2-Dichloroethane-d4			70-130	101 %	12/01/22		12/01/22 12:55		
Surrogate: Toluene-d8			75-120	98 %	12/01/22		12/01/22 12:55		
Surrogate: 4-Bromofluorobenzene			65-120	97 %	12/01/22		12/01/22 12:55		

Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
12/07/22 11:43

CELL 3 SVE INF

2120103-02 (Vapor)
Sample Date: 12/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 13:20	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	12/01/22	12/01/22 13:20	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Benzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	12/01/22	12/01/22 13:20	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	12/01/22	12/01/22 13:20	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 13:20	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	12/01/22	12/01/22 13:20	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	12/01/22	12/01/22 13:20	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
12/07/22 11:43

CELL 3 SVE INF

2120103-02 (Vapor)
Sample Date: 12/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 13:20	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 13:20	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 13:20	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Styrene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Toluene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
12/07/22 11:43

CELL 3 SVE INF

2120103-02 (Vapor)
Sample Date: 12/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:20	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>70-130</i>	<i>100 %</i>	<i>12/01/22</i>		<i>12/01/22 13:20</i>		
<i>Surrogate: Toluene-d8</i>			<i>75-120</i>	<i>99 %</i>	<i>12/01/22</i>		<i>12/01/22 13:20</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>65-120</i>	<i>96 %</i>	<i>12/01/22</i>		<i>12/01/22 13:20</i>		



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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
12/07/22 11:43

CELL 1 SVE INF

2120103-03 (Vapor)
Sample Date: 12/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatiles by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES									
Acetone	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 13:44	LL
tert-Amyl alcohol (TAA)	ND		ug/L	2.00	2.00	0.1	12/01/22	12/01/22 13:44	LL
tert-Amyl ethyl ether (TAAE)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
tert-Amyl methyl ether (TAME)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Benzene	0.81		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Bromobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Bromochloromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Bromodichloromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Bromoform	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Bromomethane	ND		ug/L	0.50	0.50	0.1	12/01/22	12/01/22 13:44	LL
tert-Butanol (TBA)	ND		ug/L	1.50	1.50	0.1	12/01/22	12/01/22 13:44	LL
2-Butanone (MEK)	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 13:44	LL
n-Butylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
sec-Butylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
tert-Butylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Carbon disulfide	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Carbon tetrachloride	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Chlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Chloroethane	ND		ug/L	0.50	0.50	0.1	12/01/22	12/01/22 13:44	LL
Chloroform	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Chloromethane	ND		ug/L	0.50	0.50	0.1	12/01/22	12/01/22 13:44	LL
2-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
4-Chlorotoluene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,2-Dibromo-3-chloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Dibromochloromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,2-Dibromoethane (EDB)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Dibromomethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,2-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,3-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,4-Dichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Dichlorodifluoromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,1-Dichloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,2-Dichloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworowski

Reported:
12/07/22 11:43

CELL 1 SVE INF

2120103-03 (Vapor)
Sample Date: 12/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,1-Dichloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
cis-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
trans-1,2-Dichloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Dichlorofluoromethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,3-Dichloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
2,2-Dichloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,1-Dichloropropene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
cis-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
trans-1,3-Dichloropropene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Diisopropyl ether (DIPE)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Ethyl tert-butyl ether (ETBE)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Ethylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Hexachlorobutadiene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
2-Hexanone	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 13:44	LL
Isopropylbenzene (Cumene)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
4-Isopropyltoluene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Methyl tert-butyl ether (MTBE)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
4-Methyl-2-pentanone	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 13:44	LL
Methylene chloride	ND		ug/L	1.00	1.00	0.1	12/01/22	12/01/22 13:44	LL
Naphthalene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
n-Propylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Styrene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,1,1,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,1,2,2-Tetrachloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Tetrachloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Toluene	0.10	J	ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,2,3-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,2,4-Trichlorobenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,1,1-Trichloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,1,2-Trichloroethane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Trichloroethene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Trichlorofluoromethane (Freon 11)	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL

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Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
12/07/22 11:43

CELL 1 SVE INF

2120103-03 (Vapor)
Sample Date: 12/01/22

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
Volatile Organics by EPA 8260B (GC/MS) Prepared by GCMS-VAPOR-VOLATILES (continued)									
1,2,3-Trichloropropane	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,2,4-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
1,3,5-Trimethylbenzene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
Vinyl chloride	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
o-Xylene	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
m- & p-Xylenes	ND		ug/L	0.20	0.10	0.1	12/01/22	12/01/22 13:44	LL
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>70-130</i>	<i>101 %</i>	<i>12/01/22</i>		<i>12/01/22 13:44</i>		
<i>Surrogate: Toluene-d8</i>			<i>75-120</i>	<i>97 %</i>	<i>12/01/22</i>		<i>12/01/22 13:44</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>65-120</i>	<i>95 %</i>	<i>12/01/22</i>		<i>12/01/22 13:44</i>		



Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
12/07/22 11:43

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte

Vapor 8260 (Full List) Acetone	Vapor 8260 (Full List) tert-Amyl alcohol (TAA)
Vapor 8260 (Full List) tert-Amyl ethyl ether (TAEE)	Vapor 8260 (Full List) tert-Amyl methyl ether (TAME)
Vapor 8260 (Full List) Benzene	Vapor 8260 (Full List) Bromobenzene
Vapor 8260 (Full List) Bromochloromethane	Vapor 8260 (Full List) Bromodichloromethane
Vapor 8260 (Full List) Bromoform	Vapor 8260 (Full List) Bromomethane
Vapor 8260 (Full List) tert-Butanol (TBA)	Vapor 8260 (Full List) 2-Butanone (MEK)
Vapor 8260 (Full List) n-Butylbenzene	Vapor 8260 (Full List) sec-Butylbenzene
Vapor 8260 (Full List) tert-Butylbenzene	Vapor 8260 (Full List) Carbon disulfide
Vapor 8260 (Full List) Carbon tetrachloride	Vapor 8260 (Full List) Chlorobenzene
Vapor 8260 (Full List) Chloroethane	Vapor 8260 (Full List) Chloroform
Vapor 8260 (Full List) Chloromethane	Vapor 8260 (Full List) 2-Chlorotoluene
Vapor 8260 (Full List) 4-Chlorotoluene	Vapor 8260 (Full List) 1,2-Dibromo-3-chloropropane
Vapor 8260 (Full List) Dibromochloromethane	Vapor 8260 (Full List) 1,2-Dibromoethane (EDB)
Vapor 8260 (Full List) Dibromomethane	Vapor 8260 (Full List) 1,2-Dichlorobenzene
Vapor 8260 (Full List) 1,3-Dichlorobenzene	Vapor 8260 (Full List) 1,4-Dichlorobenzene
Vapor 8260 (Full List) Dichlorodifluoromethane	Vapor 8260 (Full List) 1,1-Dichloroethane
Vapor 8260 (Full List) 1,2-Dichloroethane	Vapor 8260 (Full List) 1,1-Dichloroethene
Vapor 8260 (Full List) cis-1,2-Dichloroethene	Vapor 8260 (Full List) trans-1,2-Dichloroethene
Vapor 8260 (Full List) Dichlorofluoromethane	Vapor 8260 (Full List) 1,2-Dichloropropane
Vapor 8260 (Full List) 1,3-Dichloropropane	Vapor 8260 (Full List) 2,2-Dichloropropane
Vapor 8260 (Full List) 1,1-Dichloropropene	Vapor 8260 (Full List) cis-1,3-Dichloropropene
Vapor 8260 (Full List) trans-1,3-Dichloropropene	Vapor 8260 (Full List) Diisopropyl ether (DIPE)
Vapor 8260 (Full List) Ethyl tert-butyl ether (ETBE)	Vapor 8260 (Full List) Ethylbenzene
Vapor 8260 (Full List) Hexachlorobutadiene	Vapor 8260 (Full List) 2-Hexanone
Vapor 8260 (Full List) Isopropylbenzene (Cumene)	Vapor 8260 (Full List) 4-Isopropyltoluene
Vapor 8260 (Full List) Methyl tert-butyl ether (MTBE)	Vapor 8260 (Full List) 4-Methyl-2-pentanone
Vapor 8260 (Full List) Methylene chloride	Vapor 8260 (Full List) Naphthalene
Vapor 8260 (Full List) n-Propylbenzene	Vapor 8260 (Full List) Styrene
Vapor 8260 (Full List) 1,1,1,2-Tetrachloroethane	Vapor 8260 (Full List) 1,1,2,2-Tetrachloroethane
Vapor 8260 (Full List) Tetrachloroethene	Vapor 8260 (Full List) Toluene
Vapor 8260 (Full List) 1,2,3-Trichlorobenzene	Vapor 8260 (Full List) 1,2,4-Trichlorobenzene
Vapor 8260 (Full List) 1,1,1-Trichloroethane	Vapor 8260 (Full List) 1,1,2-Trichloroethane
Vapor 8260 (Full List) Trichloroethene	Vapor 8260 (Full List) Trichlorofluoromethane (Freon 11)

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
12/07/22 11:43

Maryland Spectral Services

Matrix , Method , Analyte

Vapor | 8260 (Full List) | 1,2,3-Trichloropropane
Vapor | 8260 (Full List) | 1,3,5-Trimethylbenzene
Vapor | 8260 (Full List) | o-Xylene

Vapor | 8260 (Full List) | 1,2,4-Trimethylbenzene
Vapor | 8260 (Full List) | Vinyl chloride
Vapor | 8260 (Full List) | m- & p-Xylenes



Will Brewington, President

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Analytical Results

Project: SPARROWS POINT IM

Project Number: [none]
Project Manager: Bob Tworkowski

Reported:
12/07/22 11:43

Notes and Definitions


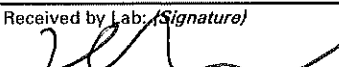
- J Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
- RE Sample reanalyses are done at the laboratory's discretion as a mechanism to improve data quality. Any client requested reanalysis will be identified with a sample qualifier.
- ND Analyte NOT DETECTED at or above the reporting limit
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- %-Solids Percent Solids is a supportive test and as such does not require accreditation

If this report contains any samples analyzed for gasoline range organics (GRO) by EPA Method 8015C and no trip blank was shipped, stored, and received with the sample(s) as required by Section 3.1 of the EPA Method, the sample analysis contained in this report cannot exclude the possibility that any reportable GRO measurement was due to environmental contamination of the sample during shipping or storage.



Will Brewington, President

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Company Name: Tradepoint Atlantic		Company Address: 1600 Sparrows Point Blvd Sparrows Point, MD 21219		Analysis Requested										CHAIN-OF-CUSTODY RECORD				
Project Name: Sparrows Point IM		Project Manager: Bob Tworkowski (443) 649-5073		No. of Containers FULL SUITE VOCs + NAPHTHALENE 8260										Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410-247-7600 • Fax 410-247-7602 reporting@mdspectral.com				
Sampler(s): Guy Davis/ARM Group (443) 610-0211		Attention/Invoice: ap@tradepointatlantic.com												Matrix Codes: NW (non-potable water), DW (drinking water), SV (soil vapor)				
Field Sample ID	Date	Time	DW	Water	Soil	SV	No. of Containers	FULL SUITE VOCs +	NAPHTHALENE 8260							Preservative	Field Notes	MSS Lab ID
CELL 5 DPEINF	12/1/22	0735				X	1	X	X									2120103-01 A
CELL 3 SVE INF	↓	0915				X	1	X	X									- 02
CELL 1 SVE INF	12/1/22	0935				X	1	X	X									- 03
Relinquished by: (Signature) 		Date/Time 12/1/22 1050		Received by: (Signature) 		Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Turn Around Time:		Lab Use:				
(Printed) Guy L Davis / ARM				(Printed)		(Printed)				(Printed)		<input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____		Temp: ____ °C <input type="checkbox"/> Received on Ice <input type="checkbox"/> Received same day				
Delivery Method: <input checked="" type="checkbox"/> Courier <input type="checkbox"/> Client <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Other: _____		Special Instructions/QC Requirements & Comments: Please report to: Bob Tworkowski btworkowski@tradepointatlantic.com Guy Davis GDavis@armgroup.net Doug Hamilton DHamilton@armgroup.net		Turn Around Time: <input checked="" type="checkbox"/> Normal (7 day) <input type="checkbox"/> 5 day <input type="checkbox"/> 4 day <input type="checkbox"/> 3 day <input type="checkbox"/> Rush (2 day) <input type="checkbox"/> Next Day <input type="checkbox"/> Other: _____ <input type="checkbox"/> Specific Due Date: _____		Sample Disposal: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab <input type="checkbox"/> Archive for ____ days												

APPENDIX B

Monitoring Well Purge Logs

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO23-PZM008	Project Name: COA GW
Well Diameter (in): 2	Project Number: 21010210
Depth to Product (ft): NA	Date: 2/3/22
Depth to Water (ft): 15.42	One Well Volume (gal): 1.10
Product Thickness (ft): NA	Flow Rate (mL/min): 3.03
Depth to Bottom (ft): 22.15	Length of time Purged (min): 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1332	0.0	15.44	13.71	10.64	3.52	1.64	-260	12.6	
1337	0.4	15.45	13.47	10.83	2.04	0.78	-267	10.4	
1342	0.8	15.47	13.24	10.81	1.83	0.80	-251	7.15	
1347	1.2	15.47	12.87	10.95	1.77	0.79	-235	6.11	
1352	1.6	15.48	12.56	10.97	1.70	0.79	-256	4.87	
1357	2.0	15.49	12.27	11.01	1.78	0.80	-263	4.09	
1402	2.4	15.51	12.02	11.01	1.77	0.81	-270	3.78	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
CO23-PZM008		1410		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition	
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping <i>Good but flush</i> <input checked="" type="checkbox"/>	
TPH-GRO				Poor: heavily cracked	
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Unsure: pad has been buried by site activities	
O&G				Bolts in place	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Bolts are missing <i>NA</i>	
TCL SVOCs				Well Casing Condition	
TAL Metals and Mercury (total)				Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)				Well Condition	
Hexavalent Chromium				Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Matrix Spike				Well is bent or broken but is able to be used	
Duplicate				Well is broken and is not able to be used	
Comments:				Well is blocked and is not able to be used	
Sampled By: <i>[Signature]</i>				Cap is present <input checked="" type="checkbox"/>	
				Well permit is present <i>N</i>	

Comments: *Slu No lock*
No Barriers needed
Needs vent cap

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO24-P2M007

Project Name: CO2 GW

Well Diameter (in): 2

Project Number: 24010210

Depth to Product (ft): NA

Date: 2/13/22

Depth to Water (ft): 14.75

One Well Volume (gal): 1.2

Product Thickness (ft): NA

Flow Rate (mL/min): 379

Depth to Bottom (ft): 22.18

Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1214	0.0	14.87	12.14	9.71	0.729	1.78	57	8.34	
1219	0.5	14.93	12.17	9.71	0.737	1.44	45	6.97	
1224	1.0	14.99	12.19	9.71	0.746	1.04	20	6.10	
1229	1.5	15.02	12.15	9.72	0.750	0.84	4	5.01	
1234	2.0	15.08	12.06	9.73	0.753	0.75	-5	4.63	
1239	2.5	15.34	11.94	9.74	0.765	0.71	-11	4.25	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
CO24-P2M007		1240		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition	
Good: no visible cracks and is sloping <input checked="" type="checkbox"/>				Fair: some visible cracks and/or not sloping	
Parameter	Collected?	Parameter	Collected?	Poor: heavily cracked	
TCL-VOCs		Dissolved Zn and Cd		Unsured: pad has been buried by site activities	
TPH-GRO		BTEX and naphthalene <input checked="" type="checkbox"/>		Bolts in place	
TPH-DRO				Bolts are missing <input checked="" type="checkbox"/>	
O&G		Well Casing Condition			
Total Cyanide		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>			
TCL SVOCs		Well Condition			
TAL Metals and Mercury (total)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)			
TAL Metals and Mercury (dissolved)		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>			
Hexavalent Chromium		Well is bent or broken but is able to be used			
PCB		Well is broken and is not able to be used			
Matrix Spike		Well is blocked and is not able to be used			
Duplicate		Cap is present <input checked="" type="checkbox"/>			
		Well permit is present <input checked="" type="checkbox"/>			

Sampled By: LCF

Comments: S/w No lock heads vent cap Has some barriers

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C026-P2M007</u>	Project Name: <u>COAGW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/9/22</u>
Depth to Water (ft): <u>12.80</u>	One Well Volume (gal): <u>1.07</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>341</u>
Depth to Bottom (ft): <u>19.37</u>	Length of time Purged (min): <u>30</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1210	0.0	13.10	10.44	10.54	2.23		-100	13.4	
1215	0.45	14.02	10.65	9.75	1.30		-75	11.1	
1220	0.90	15.22	11.21	8.91	0.485		-48	9.41	
1225	1.35	16.11	11.43	8.88	0.461		-53	8.17	
1230	1.80	17.24	11.75	8.89	0.446		-78	7.51	
1235	2.25	18.30	11.92	8.90	0.439		-82	7.22	
1240	2.70	19.02	12.01	8.92	0.431		-87	6.85	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
C026-P2M007		1245		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition	
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO				Poor: heavily cracked	
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Unclear: pad has been buried by site activities <input checked="" type="checkbox"/>	
O&G				Bolts in place	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Bolts are missing <input checked="" type="checkbox"/>	
TCL SVOCs				Well Casing Condition	
TAL Metals and Mercury (total)				Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)				Well Condition	
Hexavalent Chromium				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Matrix Spike				Well is bent or broken but is able to be used	
Duplicate				Well is broken and is not able to be used	
				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/>	
			Well permit is present <input checked="" type="checkbox"/>		
Sampled By	Comments: <u>FM-casing 1-2' bgs, needs raised - told Bob previously to repair sediment accumulates in casing and over cap cannot close casing lid due to sediment (7/1) not working</u>				

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C027-PZM012</u>	Project Name: <u>COA GW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/7/22</u>
Depth to Water (ft): <u>4.89</u>	One Well Volume (gal): <u>2.04</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>341</u>
Depth to Bottom (ft): <u>17.43</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1332	0.0	4.89	13.91	10.88	1.28	6.26	-308	3.99	
1337	0.45	4.89	14.64	10.95	1.26	1.17	-332	3.12	
1342	0.90	4.89	14.52	10.96	1.26	0.81	-340	2.32	
1347	1.35	4.89	14.33	10.98	1.26	0.64	-346	1.75	
1352	1.80	4.89	14.23	10.99	1.26	0.57	-349	1.27	
1357	2.25	4.89	14.15	11.00	1.26	0.52	-351	1.08	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C027-PZM012</u>	<u>1400</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	✓
TPH-DRO			
O&G		Fair: some visible cracks and/or not sloping	
Total Cyanide		Poor: heavily cracked	
TCL SVOCs		Unsured: pad has been buried by site activities ✓	
TAL Metals and Mercury (total)		Bolts in place	
TAL Metals and Mercury (dissolved)		Bolts are missing NA	
Hexavalent Chromium		Well Casing Condition	
PCB		Casing is free from damage and visibly marked with the Well ID N	
Matrix Spike	<u>N</u>	Well Condition	
Duplicate	<u>N</u>	Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Comments:		Well is structurally sound: not bent, broken, and no blockage identified ✓	
Sampled By: <u>WJP</u>		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present N	
Comments: <u>KB Has lock (old) but not useable</u> <u>No Barriers needed</u>			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C027-P2M046</u>	Project Name: <u>COA GW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/7/22</u>
Depth to Water (ft): <u>8.09</u>	One Well Volume (gal): <u>704</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>379</u>
Depth to Bottom (ft): <u>51.28</u>	Length of time Purged (min): <u>20</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1420	0.0	8.09	13.84	11.24	1.14	0.90	-331	2.63	
1425	0.5	8.10	13.73	11.29	1.17	0.46	-356	1.91	
1430	1.0	8.10	13.69	11.30	1.18	0.45	-369	1.57	
1435	1.5	8.10	13.70	11.30	1.19	0.43	-370	1.20	
1440	2.0	8.10	13.70	11.30	1.18	0.40	-375	1.08	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
<u>C027-P2M046</u>		<u>1445</u>		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition	
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Poor: heavily cracked	
TPH-DRO				Unsured: pad has been buried by site activities <input checked="" type="checkbox"/>	
O&G				Bolts in place <input checked="" type="checkbox"/>	
Total Cyanide				Bolts are missing <input checked="" type="checkbox"/> <u>NA</u>	
TCL SVOCs		VOC, SVOC, TAL		Well Casing Condition	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)				Well Condition <u>Short casing / 19 wires</u>	
Hexavalent Chromium				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Matrix Spike				Well is bent or broken but is able to be used	
Duplicate				Well is broken and is not able to be used	
				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/>	
				Well permit is present <input checked="" type="checkbox"/>	
Sampled By	Comments: <u>no barriers needed</u> <u>slu</u> <u>no lock</u>				
<u>WSP</u>					

03/11

<h2 style="margin: 0;">Low Flow Sampling Purge Log</h2>	<p>ARM Group Enterprises LLC Engineers and Scientists</p>
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Well Number: <u>CO30-P2M015</u>	Project Name: <u>COA GW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/10/22</u>
Depth to Water (ft): <u>12.27</u>	One Well Volume (gal): <u>2.5</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>341</u>
Depth to Bottom (ft): <u>27.61</u>	Length of time Purged (min): <u>40</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1240	0.0	12.27	17.70	10.82	1.83	3.88	-261	22.5	
1245	0.45	12.27	18.11	10.80	1.85	0.88	-268	20.7	
1250	0.90	12.27	18.37	10.77	1.85	0.47	-269	18.3	
1255	1.35	12.27	18.76	10.70	1.81	0.20	-253	15.6	
1300	1.80	12.27	19.05	10.58	1.79	0.12	-237	13.0	
1305	2.25	12.27	19.24	10.49	1.78	0.07	-225	11.1	
1310	2.70	12.27	19.40	10.45	1.70	0.00	-586	10.5	
1315	3.15	12.27	19.47	10.00	1.62		-594	9.7	
1320	3.60	12.27	19.54	10.00	1.60		-586	9.2	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection		
<u>CO30-P2M015</u>	<u>1325</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓		
		Well Pad Condition		
Sampling Parameters		Good: no visible cracks and is sloping ✓		
Parameter	Collected?	Parameter	Collected?	
TCL-VOCs		Dissolved Zn and Cd		
TPH-GRO			Poor: heavily cracked	
TPH-DRO		BTEX and naphthalene ✓	Unsure: pad has been buried by site activities	
O&G			Bolts in place	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Bolts are missing NA	
TCL SVOCs			Well Casing Condition	
TAL Metals and Mercury (total)			Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (dissolved)			Well Condition	
Hexavalent Chromium			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB			Well is structurally sound: not bent, broken, and no blockage identified ✓	
Matrix Spike			Well is bent or broken but is able to be used	
Duplicate			Well is broken and is not able to be used	
Comments: <u>slw needs vent cap No lock Has bollards</u>		Well is blocked and is not able to be used		
		Cap is present ✓		
		Well permit is present		

DO NOT WORKXIF

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C036-P2M008	Project Name: COAGW
Well Diameter (in): 2	Project Number: 21010210
Depth to Product (ft): NA	Date: 2/3/22
Depth to Water (ft): 6.86	One Well Volume (gal): 1.19
Product Thickness (ft): NA	Flow Rate (mL/min): 303
Depth to Bottom (ft): 14.15	Length of time Purged (min): 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
751	0.0	7.20	20.13	7.38	1.12	2.42	9	26.6	
756	0.4	7.22	18.16	8.76	1.01	0.99	-26	15.4	
801	0.8	7.24	17.38	8.43	1.01	1.29	-20	5.05	
806	1.2	7.27	16.24	8.24	1.00	1.37	31	3.35	
811	1.6	7.30	15.26	8.16	1.00	1.55	61	3.10	
816	2.0	7.32	14.85	8.12	0.998	1.59	70	2.97	
821	2.4	7.34	13.79	7.69	1.01	1.72	87	2.74	
826	2.8	7.36	13.24	7.60	1.01	1.70	93	2.61	
831	3.2	7.39	12.64	7.59	1.03	1.84	99	2.50	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
C036P2M008		835		Well has been found and is accessible without hazards. If no, explain in the comments section. Y	
Sampling Parameters				Well Pad Condition	
				Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping flush w/ground <input checked="" type="checkbox"/>	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO		BTEX and naphthalene <input checked="" type="checkbox"/>		Unsure: pad has been buried by site activities	
TPH-DRO				Bolts in place	
O&G				Bolts are missing NA	
Total Cyanide		VOC, SVOC, TAL		Well Casing Condition	
TCL SVOCs		Metals and mercury, Sulfate, Nitrate,		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)		Ammonia, COD, Alkalinity, Chloride, Turbidity,		Well Condition	
TAL Metals and Mercury (dissolved)		TDS, Specific Conductance		Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
PCB				Well is bent or broken but is able to be used	
Matrix Spike				Well is broken and is not able to be used	
Duplicate				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/>	
				Well permit is present N	
Sampled By: <u>CWP</u>		Comments: 5/16 No lock needs vent cap			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C036-p2m043</u>	Project Name: <u>COA-6W</u>
Well Diameter (in): <u>2</u>	Project Number: <u>2010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/3/22</u>
Depth to Water (ft): <u>7.75</u>	One Well Volume (gal): <u>7.23</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>341</u>
Depth to Bottom (ft): <u>52.10</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1020	0.0	7.76	8.98	9.05	1.51	1.27	38	10.1	
1025	0.45	7.76	9.17	9.06	1.55	1.02	59	6.9	
1030	0.90	7.76	9.38	9.08	1.60	0.92	74	4.9	
1035	1.35	7.76	9.57	9.09	1.58	0.93	80	3.5	
1040	1.80	7.76	9.72	9.09	1.60	0.86	80	2.9	
1045	2.25	7.76	9.84	9.08	1.60	0.82	81	2.6	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C036-p2m043</u>	<u>1050</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. Y	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	✓
TPH-DRO			
O&G		Fair: some visible cracks and/or not sloping flush w/surface ✓	
Total Cyanide		Poor: heavily cracked	
TCL SVOCs		VOC, SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	
TAL Metals and Mercury (dissolved)		Well is bent or broken but is able to be used	
Hexavalent Chromium		Well is broken and is not able to be used	
PCB		Well is blocked and is not able to be used	
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified ✓	
Duplicate		Well is bent or broken but is able to be used	
Comments:		Well is broken and is not able to be used	
Sampled By: <u>LP</u>		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present N	

Comments: S/u no lock needs vent cap
no barriers needed

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C037-P2M003</u>	Project Name: <u>COA GW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010260</u>
Depth to Product (ft): <u>11.05</u>	Date: <u>2/8/22</u>
Depth to Water (ft): <u>10.78</u>	One Well Volume (gal): <u>0.04</u>
Product Thickness (ft): <u>0.27</u>	Flow Rate (mL/min): <u>---</u>
Depth to Bottom (ft): <u>11.22</u>	Length of time Purged (min): <u>---</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (su) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
<p style="font-size: 1.2em;">Did not sample - not enough water volume DNAPL present</p>									

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection									
<u>NA</u>	<u>NA</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓									
Sampling Parameters		Well Pad Condition									
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping							
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping							
TPH-GRO		BTEX and naphthalene		Poor: heavily cracked							
TPH-DRO				Unsure: pad has been buried by site activities				✓			
O&G				Bolts in place							
Total Cyanide				Bolts are missing				NA			
TCL SVOCs				Well Casing Condition							
TAL Metals and Mercury (total)				Casing is free from damage and visibly marked with the Well ID ✓							
TAL Metals and Mercury (dissolved)				Well Condition							
Hexavalent Chromium				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft							
PCB				_____ ft x _____ gal/ft = _____ (gal)							
Matrix Spike				Well is structurally sound: not bent, broken, and no blockage identified ✓							
Duplicate				Well is bent or broken but is able to be used							
				Well is broken and is not able to be used							
				Well is blocked and is not able to be used							
				Cap is present ✓							
				Well permit is present N							
Sampled By	Comments: <u>SLU No lock had vent cap</u> <u>No barriers needed</u>										

Low Flow Sampling Purge Log



**ARM Group
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Well Number: <u>C037-P2M038</u>	Project Name: <u>COA 6A</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/8/22</u>
Depth to Water (ft): <u>12.75</u>	One Well Volume (gal): <u>6.05</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>379</u>
Depth to Bottom (ft): <u>49.88</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
817	0.0	12.75	18.75	5.88	1.37	1.23	-359	5.90	
822	0.5	12.75	17.26	8.71	1.54	0.77	-372	4.61	
827	1.0	12.75	16.41	8.91	1.60	0.72	-375	3.74	
832	1.5	12.75	15.35	9.05	1.67	0.66	-378	3.08	
837	2.0	12.75	14.77	9.01	1.71	0.66	-370	2.57	
842	2.5	12.75	13.39	9.05	1.70	0.72	-360	2.33	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C037-P2M038</u>	<u>845</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. Y	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride, Turbidity,	
PCB		TDS,	
Matrix Spike		Specific	
Duplicate		Conductance	
		Well Casing Condition	
		Casing is free from damage and visibly marked with the Well ID ✓	
		Well Condition	
		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified ✓	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present N	

Sampled By: [Signature] Comments: NO LOCK s/w
NO Barrier needed Has vent cap

<h2 style="margin: 0;">Low Flow Sampling Purge Log</h2>	 <p style="margin: 0;">ARM Group Enterprises LLC Engineers and Scientists</p>
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Well Number: <u>C038-P2M006</u>	Project Name: <u>COAGW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/7/22</u>
Depth to Water (ft): <u>6.67</u>	One Well Volume (gal): <u>1.47</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>303</u>
Depth to Bottom (ft): <u>15.70</u>	Length of time Purged (min): <u>30</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
755	0.0	6.68	18.69	4.78	1.38	0.81	2	9.40	
800	0.4	6.68	12.83	8.30	1.69	1.96	-231	7.11	
805	0.8	6.68	14.61	8.13	1.64	2.36	-187	5.90	
810	1.2	6.69	14.31	8.01	1.63	2.38	-170	4.86	
815	1.6	6.69	13.49	8.00	1.64	1.79	-154	4.02	
820	2.0	6.70	12.99	7.94	1.65	1.53	-148	3.47	
825	2.4	6.70	12.24	7.87	1.67	1.28	-141	3.11	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C038-P2M006</u>	<u>830</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	
TPH-DRO		VOC, SVOC, TAL	
O&G		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	
Total Cyanide		Well Casing Condition	
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)		Well Condition	
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
PCB		Well is bent or broken but is able to be used	
Matrix Spike	<u>N</u>	Well is broken and is not able to be used	
Duplicate	<u>N</u>	Well is blocked and is not able to be used	
		Cap is present <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	

Sampled By: WJ

Comments: Slu No lock
No Barriers needed

Low Flow Sampling Purge Log



**ARM Group
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Engineers and Scientists

Well Number: <u>C038-P2M043</u>	Project Name: <u>COA CW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/7/22</u>
Depth to Water (ft): <u>7.63</u>	One Well Volume (gal): <u>6.88</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>341</u>
Depth to Bottom (ft): <u>49.85</u>	Length of time Purged (min): <u>30</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
837	0.0	7.75	10.84	7.72	1.08	1.22	-117	6.41	
842	0.5	7.89	10.36	7.65	1.12	0.94	-110	4.75	
847	1.0	8.01	10.00	7.69	1.16	0.82	-101	3.86	
852	1.5	8.17	9.83	7.77	1.17	0.72	-117	3.17	
857	2.0	8.26	9.66	7.85	1.18	0.70	-131	2.42	
902	2.5	8.38	9.46	7.90	1.20	0.67	-135	2.12	
907	3.0	8.42	9.30	7.97	1.21	0.66	-139	1.98	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C038-P2M043</u>	<u>915</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	✓
O&G			NA
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride,	
PCB		Turbidity,	
Matrix Spike	<u>N</u>	TDS,	
Duplicate	<u>N</u>	Specific Conductance	
Well Casing Condition		Well is structurally sound: not bent, broken, and no blockage identified ✓	
Well Condition		Well is bent or broken but is able to be used	
Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft		Well is broken and is not able to be used	
_____ ft x _____ gal/ft = _____ (gal)		Well is blocked and is not able to be used	
Well permit is present		Cap is present ✓	
Comments: <u>NO Barriers needed</u> <u>NO lock</u>			
Sampled By: <u>UP</u>		<u>Slu</u>	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C039-P2M007</u>	Project Name: <u>C0A6W</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/7/22</u>
Depth to Water (ft): <u>6.65</u>	One Well Volume (gal): <u>1.83</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>303</u>
Depth to Bottom (ft): <u>17.90</u>	Length of time Purged (min): <u>20</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1056	0.0	6.66	9.25	10.27	2.25	0.75	-290	4.95	
1101	0.4	6.66	9.13	10.29	2.27	0.47	-305	4.01	
1106	0.8	6.67	9.02	10.31	2.28	0.41	-311	3.37	
1111	1.2	6.68	8.99	10.28	2.30	0.42	-315	2.95	
1116	1.6	6.69	8.95	10.30	2.29	0.39	-319	2.57	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection		
<u>C039-P2M007</u>	<u>1120</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓		
		Well Pad Condition		
Sampling Parameters		Good: no visible cracks and is sloping		
Parameter	Collected?	Parameter	Collected?	
TCL-VOCs		Dissolved Zn and Cd		
TPH-GRO			Fair: some visible cracks and/or not sloping	
TPH-DRO		BTEX and naphthalene	Poor: heavily cracked	
O&G			Unsured: pad has been buried by site activities ✓	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Bolts in place	
TCL SVOCs			Bolts are missing NA	
TAL Metals and Mercury (total)			Well Casing Condition	
TAL Metals and Mercury (dissolved)			Casing is free from damage and visibly marked with the Well ID ✓	
Hexavalent Chromium			Well Condition	
PCB			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike			Well is structurally sound: not bent, broken, and no blockage identified ✓	
Duplicate			Well is bent or broken but is able to be used	
			Well is broken and is not able to be used	
			Well is blocked and is not able to be used	
		Cap is present ✓		
		Well permit is present N		
Sampled By <u>[Signature]</u>	Comments: <u>NO Barriers needed NO lock</u> <u>slu</u>			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CD39-P2M042	Project Name: COA6W
Well Diameter (in): 2	Project Number: 21010210
Depth to Product (ft): NA	Date: 2/7/22
Depth to Water (ft): 8.63	One Well Volume (gal): 6.08
Product Thickness (ft): NA	Flow Rate (mL/min): 341
Depth to Bottom (ft): 45.95	Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
938	0.0	8.63	8.81	9.96	2.53	0.83	-320	3.60	
943	0.45	8.63	8.90	10.00	2.55	0.59	-319	2.88	
948	0.90	8.63	9.09	10.00	2.54	0.45	-334	2.41	
953	1.35	8.63	9.17	9.99	2.53	0.46	-342	1.97	
958	1.80	8.63	9.25	10.00	2.54	0.44	-335	1.25	
1003	2.25	8.63	9.31	10.00	2.53	0.42	-343	1.16	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CD39-P2M042	1010	Well has been found and is accessible without hazards. If no, explain in the comments section. Y	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	✓
TPH-DRO			
O&G			
Total Cyanide		Well Casing Condition	
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (total)		Well Condition	
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified ✓	
PCB		Well is bent or broken but is able to be used	
Matrix Spike	N	Well is broken and is not able to be used	
Duplicate	N	Well is blocked and is not able to be used	
		Cap is present	
		Well permit is present N	

Sampled By: WJP Comments: **No Barriers needed No Lock**
Slu

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C040-PZM008</u>	Project Name: <u>COA GW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/7/22</u>
Depth to Water (ft): <u>7.10</u>	One Well Volume (gal): <u>1.74</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>303</u>
Depth to Bottom (ft): <u>17.76</u>	Length of time Purged (min): <u>30</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1147	0.0	7.10	9.05	8.58	3.17	1.00	-164	5.88	
1152	0.4	7.10	9.21	8.21	3.24	0.73	-175	5.00	
1157	0.8	7.10	9.42	8.06	3.24	0.67	-190	4.46	
1202	1.2	7.10	9.56	8.14	3.21	0.61	-216	3.90	
1207	1.6	7.10	9.67	8.37	3.22	0.59	-248	3.22	
1212	2.0	7.10	9.71	8.45	3.19	0.53	-257	2.87	
1217	2.4	7.10	9.74	8.51	3.17	0.59	-265	2.49	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection			
<u>C040-PZM008</u>	<u>1220</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓			
		Well Pad Condition			
Sampling Parameters		Good: no visible cracks and is sloping ✓			
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO		BTEX and naphthalene ✓		Unsure: pad has been buried by site activities	
TPH-DRO				Bolts in place	
O&G		Bolts are missing			
Total Cyanide		Well Casing Condition			
TCL SVOCs		VOC, SVOC, TAL		Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Well Condition <u>See below</u>	
TAL Metals and Mercury (dissolved)		Ammonia, COD, Alkalinity,		Casing Volume 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium		Chloride, Turbidity,		Well is structurally sound: not bent, broken, and no blockage identified ✓	
PCB		TDS,		Well is bent or broken but is able to be used	
Matrix Spike		Specific Conductance		Well is broken and is not able to be used	
Duplicate				Well is blocked and is not able to be used	
				Cap is present ✓	
				Well permit is present N	
Sampled By <u>UP</u>	Comments: <u>Whole casing + pad slightly tilted</u> <u>no barriers needed</u> <u>S/u</u> <u>NO lock</u>				

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO41-PZM001</u>	Project Name: <u>COA GW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>7/8/22</u>
Depth to Water (ft): <u>12.82</u>	One Well Volume (gal): <u>0.53</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>303</u>
Depth to Bottom (ft): <u>16.05</u>	Length of time Purged (min): <u>40</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1248	0.0	12.86	17.35	7.46	0.648	1.89	41	4.51	
1252	0.4	12.89	16.84	7.41	0.645	1.58	32	3.80	
1258	0.8	12.93	16.34	7.39	0.651	1.54	16	3.14	
1302	1.2	12.95	16.00	7.38	0.651	1.56	-38	2.63	
1308	1.6	12.96	15.56	7.38	0.651	1.54	-62	2.27	
1312	2.0	12.99	15.26	7.39	0.656	1.57	-69	1.93	
1318	2.4	13.02	15.03	7.39	0.659	1.55	-122	1.69	
1322	2.8	13.05	14.67	7.41	0.663	1.48	-130	1.55	
1328	3.2	13.07	14.56	7.42	0.660	1.44	-136	1.35	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
<u>CO41-PZM001</u>		<u>1330</u>		Well has been found and is accessible without hazards. If no, explain in the comments section. <u>old borehole? next</u> <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition <u>to it that is open</u>	
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping	<input checked="" type="checkbox"/>
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Poor: heavily cracked	
TPH-DRO				Unsured: pad has been buried by site activities	
O&G				Bolts in place	<u>NA</u>
Total Cyanide				Bolts are missing	
TCL SVOCs		VOC, SVOC, TAL		Well Casing Condition	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)		Ammonia, COD,		Well Condition	
Hexavalent Chromium		Chloride, Turbidity,		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
PCB		TDS,		_____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike		Specific Conductance		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Duplicate				Well is bent or broken but is able to be used	
				Well is broken and is not able to be used	
				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/>	
				Well permit is present <input checked="" type="checkbox"/>	

Sampled By: LUP
 Comments: slw no lock vent cap needed
no barriers needed

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C041-P2M036	Project Name: CON GW
Well Diameter (in): 2	Project Number: 21010210
Depth to Product (ft): NA	Date: 2/9/22
Depth to Water (ft): 13.84	One Well Volume (gal): 5.92
Product Thickness (ft): NA	Flow Rate (mL/min): 341
Depth to Bottom (ft): 50.16	Length of time Purged (min): 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1409	0.0	13.84	14.65	9.98	1.23	0.59	-293	10.2	
1414	0.45	13.84	14.72	10.05	1.23	0.45	-305	7.90	
1419	0.90	13.84	14.70	10.08	1.23	0.43	-309	6.27	
1424	1.35	13.84	14.69	10.56	1.36	0.39	-353	4.91	
1429	1.80	13.84	14.71	10.72	1.41	0.37	-365	4.20	
1434	2.25	13.84	14.71	10.76	1.43	0.36	-370	3.62	
1439	2.70	13.84	14.74	10.79	1.44	0.35	-373	3.11	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C041-P2M036	1450	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			Poor: heavily cracked ✓
TPH-DRO		BTEX and naphthalene ✓	Unsure: pad has been buried by site activities ✓
O&G			Bolts in place NA
Total Cyanide		VOC, SVOC, TAL	Bolts are missing NA
TCL SVOCs			Well Casing Condition
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Casing is free from damage and visibly marked with the Well ID ✓
TAL Metals and Mercury (dissolved)			Well Condition
Hexavalent Chromium			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)
PCB			Well is structurally sound: not bent, broken, and no blockage identified ✓
Matrix Spike			Well is bent or broken but is able to be used
Duplicate			Well is broken and is not able to be used
Comments:		Well is blocked and is not able to be used	
Sampled By	S/W No lock Vent cap needed NO Barriers needed N		

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO42-P2M004</u>	Project Name: <u>COA 6W</u>
Well Diameter (in): <u>2</u>	Project Number: <u>2101020</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/8/22</u>
Depth to Water (ft): <u>6.01</u>	One Well Volume (gal): <u>1.63</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>303</u>
Depth to Bottom (ft): <u>16.33</u>	Length of time Purged (min): <u>40</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1041	0.0	6.06	12.08	7.38	0.881	2.41	-74	6.08	
1046	0.4	6.10	11.96	7.61	0.883	2.46	-68	5.40	
1051	0.8	6.15	11.54	7.45	0.883	3.80	-47	4.41	
1056	1.2	6.19	11.27	7.36	0.877	3.79	-24	3.85	
1101	1.6	6.24	11.07	7.28	0.869	4.47	-4	3.16	
1106	2.0	6.30	10.87	7.22	0.847	4.75	14	2.72	
1111	2.4	6.34	10.69	7.17	0.844	4.90	28	2.10	
1116	2.8	6.41	10.47	7.12	0.848	4.95	37	1.87	
1121	3.2	6.45	10.31	7.10	0.851	4.80	43	1.48	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>CO42-P2M004</u>	<u>1130</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. Y	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	✓
O&G			NA
Total Cyanide		Well Casing Condition	
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (total)		Well Condition	
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified ✓	
PCB		Well is bent or broken but is able to be used	
Matrix Spike		Well is broken and is not able to be used	
Duplicate		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present N	

Sampled By: WJ
Comments: SLU NO LOCK needs vent cap
No barriers needed

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C056-PZP001</u>	Project Name: <u>COAGW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/9/22</u>
Depth to Water (ft): <u>15.56</u>	One Well Volume (gal): <u>0.58</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>303</u>
Depth to Bottom (ft): <u>19.15</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1000	0.0	15.56	7.71	9.97	1.15	4.67	-71	7.75	
1005	0.4	15.56	8.01	10.80	2.37	0.78	-112	6.52	
1010	0.8	15.56	12.18	10.86	2.13	0.40	-177	6.00	
1015	1.2	15.56	12.21	10.88	2.10	0.20	-173	5.27	
1020	1.6	15.56	12.36	10.89	2.09	0.10	-168	5.20	
1025	2.0	15.56	12.47	10.89	2.08	0.0	-166	5.15	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C056-PZP001</u>	<u>1030</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	✓
TPH-DRO			
O&G		Fair: some visible cracks and/or not sloping	
Total Cyanide		Poor: heavily cracked	
TCL SVOCs		VOC, SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	
TAL Metals and Mercury (dissolved)		Well is structurally sound: not bent, broken, and no blockage identified ✓	
Hexavalent Chromium		Well is bent or broken but is able to be used	
PCB		Well is broken and is not able to be used	
Matrix Spike		Well is blocked and is not able to be used	
Duplicate		Cap is present ✓	
		Well permit is present N	

Sampled By: UP Comments: Slu no lock needs vent cap
no barriers needed

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C057-P2P002</u>	Project Name: <u>COA GW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/9/22</u>
Depth to Water (ft): <u>16.20</u>	One Well Volume (gal): <u>0.29</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>303</u>
Depth to Bottom (ft): <u>18.00</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
826	2.0	16.34	16.95	10.48	1.32	3.80	28	7.11	
831	0.4	16.61	15.15	10.33	1.57	3.15	-34	5.45	
836	0.8	16.98	10.95	10.54	1.44	4.19	-39	4.27	
841	1.2	17.24	10.20	10.57	1.38	4.71	-42	3.17	
846	1.6	17.53	9.71	10.46	1.30	4.88	-46	2.94	
851	2.0	17.78	8.92	10.40	1.27	5.15	-46	2.50	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C057-P2P002	0900	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	✓
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride, Turbidity,	
PCB		TDS,	
Matrix Spike		Specific	
Duplicate		Conductance	
Comments:		Well Casing Condition	
S/w needs vent cap no lock "N" Has Barriers		Casing is free from damage and visibly marked with the Well ID ✓	
		Well Condition	
		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified ✓	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present N	
Sampled By	_____		

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C058-P2M001</u>	Project Name: <u>COA-6W</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/9/22</u>
Depth to Water (ft): <u>13.95</u>	One Well Volume (gal): <u>0.87</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>379</u>
Depth to Bottom (ft): <u>19.28</u>	Length of time Purged (min): <u>35</u>

PURGING RECORD


Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1311	0.0	14.24	13.03	11.26	1.84		-118	12.1	
1316	0.5	14.62	13.30	10.50	0.012		-109	9.05	
1321	1.0	15.03	13.61	10.27	0.001		-93	6.11	
1326	1.5	15.50	14.03	9.49	0.207		-41	4.75	
1331	2.0	16.20	14.54	9.30	0.207		2	3.10	
1336	2.5	17.01	14.88	9.28	0.233		11	2.05	
1341	3.0	17.45	15.00	9.30	0.241		11	1.71	
1346	3.5	17.90	15.10	9.32	0.249		11	1.56	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
<u>C058-P2M001</u>		<u>1350</u>		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition	
Good: no visible cracks and is sloping					
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Unsure: pad has been buried by site activities <input checked="" type="checkbox"/>	
TPH-DRO				Bolts in place	N/A
O&G				Bolts are missing	
Total Cyanide		VOC, SVOC, TAL		Well Casing Condition	
TCL SVOCs		Metals and mercury, Sulfate, Nitrate,		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)		Ammonia, COD, Alkalinity, Chloride, Turbidity,		Well Condition	
TAL Metals and Mercury (dissolved)		TDS, Specific Conductance		Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
PCB				Well is bent or broken but is able to be used	
Matrix Spike				Well is broken and is not able to be used	
Duplicate				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/>	
				Well permit is present <input checked="" type="checkbox"/>	

Sampled By: LEP Comments: S/N No lock HAS Barriers needs vent cap

004

Low Flow Sampling Purge Log	 ARM Group Enterprises LLC Engineers and Scientists
Well Number: <u>C059-PZP002</u>	Project Name: <u>COA 0W</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/10/22</u>
Depth to Water (ft): <u>13.99</u>	One Well Volume (gal): <u>0.82</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>379</u>
Depth to Bottom (ft): <u>19.01</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD									
Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
824	0.0	14.02	18.45	6.88	1.36	4.36	89	5.01	
829	0.5	14.03	16.03	7.23	1.37	3.42	96	4.75	
834	1.0	14.05	14.65	7.32	1.40	3.54	101	4.07	
839	1.5	14.08	13.75	7.38	1.43	3.68	104	3.44	
844	2.0	14.09	12.72	7.44	1.47	3.89	106	3.02	
849	2.5	14.11	11.75	7.48	1.51	4.08	107	2.71	

SAMPLE RECORD AND WELL DETAILS									
Sample ID		Time Collected		Well Inspection					
<u>C059-PZP002</u>		<u>850</u>		Well has been found and is accessible without hazards. If no, explain in the comments section. N					
				Well Pad Condition					
Sampling Parameters				Good: no visible cracks and is sloping					
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO		BTEX and naphthalene	✓	Unsure: pad has been buried by site activities ✓					
TPH-DRO				Bolts in place NA					
O&G		Bolts are missing							
Total Cyanide		VOC,		Well Casing Condition					
TCL SVOCs		SVOC, TAL		Casing is free from damage and visibly marked with the Well ID ✓					
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Well Condition					
TAL Metals and Mercury (dissolved)		Ammonia, COD, Alkalinity,		Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft					
Hexavalent Chromium		Chloride, Turbidity,		Well is structurally sound: not bent, broken, and no blockage identified ✓					
PCB		TDS,		Well is bent or broken but is able to be used					
Matrix Spike	N	Specific Conductance		Well is broken and is not able to be used					
Duplicate	N			Well is blocked and is not able to be used					
				Cap is present ✓					
				Well permit is present N					

Sampled By: WLP

Comments: Very heavy mud within 100 ft perimeter of well and 3 sides have tall piles; Very hard access; large puddles almost completely in walking area. Needs vent cap on back laser burners

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO60-P2M001	Project Name: COA GW
Well Diameter (in): 2	Project Number: 21010210
Depth to Product (ft): NA	Date: 2/3/22
Depth to Water (ft): 15.60	One Well Volume (gal): 0.55
Product Thickness (ft): NA	Flow Rate (mL/min): 374
Depth to Bottom (ft): 18.96	Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1424	0.0	15.62	11.66	9.15	1.91	2.25	10	6.27	
1429	0.5	15.64	11.94	8.30	1.46	1.06	112	5.39	
1434	1.0	15.67	12.26	8.35	1.48	0.86	94	4.91	
1439	1.5	15.69	12.36	8.41	1.69	0.83	83	4.29	
1444	2.0	15.73	12.46	8.48	1.74	0.80	77	3.88	
1449	2.5	15.85	12.48	8.56	1.65	0.74	73	3.62	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection		
CO60-P2M001	1455	Well has been found and is accessible without hazards. If no, explain in the comments section. Y		
		Well Pad Condition		
Sampling Parameters		Good: no visible cracks and is sloping		
Parameter	Collected?	Parameter	Collected?	
TCL-VOCs		Dissolved Zn and Cd		
TPH-GRO			Fair: some visible cracks and/or not sloping	
TPH-DRO		BTEX and naphthalene	Poor: heavily cracked	
O&G			Unclear: pad has been buried by site activities ✓	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Bolts in place	
TCL SVOCs			Bolts are missing NA	
TAL Metals and Mercury (total)			Well Casing Condition	
TAL Metals and Mercury (dissolved)			Casing is free from damage and visibly marked with the Well ID ✓	
Hexavalent Chromium			Well Condition	
PCB			Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike			Well is structurally sound: not bent, broken, and no blockage identified ✓	
Duplicate			Well is bent or broken but is able to be used	
			Well is broken and is not able to be used	
			Well is blocked and is not able to be used	
		Cap is present ✓		
		Well permit is present N		
Sampled By: <u>WLP</u>	Comments: S/U No lock needs vent cap No barriers needed			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C093-P2M	Project Name: COAGW
Well Diameter (in): 2	Project Number: 21010210
Depth to Product (ft): NA	Date: 2/9/22
Depth to Water (ft): 10.58	One Well Volume (gal): 1.47
Product Thickness (ft): NA	Flow Rate (mL/min): 303
Depth to Bottom (ft): 19.55	Length of time Purged (min): 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1432	0.0	10.59	14.11	7.78	0.603		-203	10.8	
1437	0.4	10.61	14.27	8.25	0.605		-294	8.14	
1442	0.8	10.64	14.41	8.81	0.624		-318	6.10	
1447	1.2	10.67	14.75	9.18	0.667		-328	5.61	
1452	1.6	10.71	14.94	9.37	0.659		-329	4.93	
1457	2.0	10.74	15.22	9.61	0.657		-316	4.20	
1502	2.4	10.77	15.42	9.25	0.373		-213	3.84	
1507	2.8	10.81	15.64	9.18	0.368		-207	3.59	
1512	3.2	10.85	15.76	9.10	0.364		-199	3.30	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection		
C093-P2M	1520	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓		
		Well Pad Condition		
Sampling Parameters		Good: no visible cracks and is sloping		
Parameter	Collected?	Parameter	Collected?	
TCL-VOCs		Dissolved Zn and Cd		
TPH-GRO			Fair: some visible cracks and/or not sloping <i>sloping below surface</i> ✓	
TPH-DRO		BTEX and naphthalene	Poor: heavily cracked	
O&G			Unsured: pad has been buried by site activities	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Bolts in place	
TCL SVOCs			Bolts are missing NA	
TAL Metals and Mercury (total)			Well Casing Condition	
TAL Metals and Mercury (dissolved)			Casing is free from damage and visibly marked with the Well ID ✓	
Hexavalent Chromium			Well Condition	
PCB			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike			Well is structurally sound: not bent, broken, and no blockage identified ✓	
Duplicate			Well is bent or broken but is able to be used	
			Well is broken and is not able to be used	
			Well is blocked and is not able to be used	
		Cap is present ✓		
		Well permit is present N		
Sampled By	Comments: Sh no lock needs vent cap was burners			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO182-MWI</u>	Project Name: <u>COA 6W</u>
Well Diameter (in): <u>2</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/8/22</u>
Depth to Water (ft): <u>8.33</u>	One Well Volume (gal): <u>7.37</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min) <u>341</u>
Depth to Bottom (ft): <u>53.55</u>	Length of time Purged (min) <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
932	0.0	8.35	11.77	10.32	0.811	1.11	-266	5.06	
937	0.45	8.39	11.91	10.35	0.808	0.69	-280	4.87	
942	0.90	8.42	12.13	10.27	0.777	0.63	-285	4.29	
947	1.35	8.45	12.21	10.22	0.758	0.59	-287	3.94	
952	1.80	8.47	12.26	10.22	0.754	0.54	-290	3.63	
957	2.25	8.51	12.35	10.21	0.749	0.58	-294	3.41	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
<u>CO182-MWI</u>		<u>1000</u>		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition	
				Good: no visible cracks and is sloping <u>Good but flush</u> <input checked="" type="checkbox"/>	
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Unsured: pad has been buried by site activities	
TPH-DRO				Bolts in place	
O&G				Bolts are missing <u>NA</u>	
Total Cyanide		VOC, SVOC, TAL		Well Casing Condition	
TCL SVOCs		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)				Well Condition	
TAL Metals and Mercury (dissolved)				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
PCB				Well is bent or broken but is able to be used	
Matrix Spike				Well is broken and is not able to be used	
Duplicate				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/>	
				Well permit is present <input checked="" type="checkbox"/>	
Sampled By	Comments: <u>BA-16-0113 Has vent cap</u> <u>slu no lock No barriers needed</u>				

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO190-mws</u>	Project Name: <u>COAGW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>2010210</u>
Depth to Product (ft): <u>NA</u>	Date: <u>2/10/22</u>
Depth to Water (ft): <u>14.40</u>	One Well Volume (gal): <u>1.53</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>341</u>
Depth to Bottom (ft): <u>23.85</u>	Length of time Purged (min): <u>20</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1052	0.0	14.43	9.96	6.58	2.83	2.69	-112	8.14	
1107	0.45	14.43	10.98	6.64	2.78	1.10	-131	7.27	
1112	0.90	14.44	11.72	6.64	2.76	0.97	-134	6.59	
1117	1.35	14.44	11.89	6.65	2.77	0.90	-136	6.22	
1122	1.80	14.44	12.46	6.66	2.73	0.82	-139	6.03	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
<u>CO190-mws</u>		<u>1130</u>		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
				Well Pad Condition	
Sampling Parameters				Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO				Unsured: pad has been buried by site activities	
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Bolts in place	
O&G				Bolts are missing <u>NA</u>	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Casing Condition	
TCL SVOCs				Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)				Well Condition	
TAL Metals and Mercury (dissolved)				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
PCB				Well is bent or broken but is able to be used	
Matrix Spike				Well is broken and is not able to be used	
Duplicate				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/>	
				Well permit is present <input checked="" type="checkbox"/>	

Sampled By: CVP Comments: See separate inspection form for more info

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO195-MWS	Project Name: COA60
Well Diameter (in): 2	Project Number: 21010210
Depth to Product (ft): NA	Date: 2/10/22
Depth to Water (ft): 14.30	One Well Volume (gal): 3.93
Product Thickness (ft): NA	Flow Rate (mL/min): 379
Depth to Bottom (ft): 38.42	Length of time Purged (min): 35

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1414	0.0	14.30	19.63	10.67	1.07		-187	10.1	
1419	0.5	14.30	19.25	10.08	1.12		-182	8.47	
1424	1.0	14.30	18.73	9.79	1.15		-178	7.12	
1429	1.5	14.30	18.32	9.67	1.16		-168	5.58	
1434	2.0	14.30	18.13	9.62	1.16		-163	4.69	
1439	2.5	14.30	17.82	9.29	1.17		-138	4.40	
1444	3.0	14.30	17.39	9.28	1.17		-130	4.25	
1449	3.5	14.30	17.16	9.28	1.18		-122	4.17	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
CO195-MWS		1455		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition	
Parameter		Collected?		Good: no visible cracks and is sloping <i>Sloping?</i> <input checked="" type="checkbox"/>	
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO				Poor: heavily cracked	
TPH-DRO		BTEX and naphthalene <input checked="" type="checkbox"/>		Upsure: pad has been buried by site activities	
O&G				Bolts in place <input checked="" type="checkbox"/>	
				Bolts are missing <input checked="" type="checkbox"/>	
Total Cyanide				Well Casing Condition	
TCL SVOCs		VOC, SVOC, TAL		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Condition	
TAL Metals and Mercury (dissolved)				Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
PCB				Well is bent or broken but is able to be used	
Matrix Spike				Well is broken and is not able to be used	
Duplicate				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/>	
				Well permit is present <input checked="" type="checkbox"/>	
Sampled By: <i>WJ</i>		Comments: <i>Slw No lock Needs vent cap</i>			

BA-1b-

DO NOT WORKING

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C023-PZM008	Project Name: COA - GW
Well Diameter (in): 2"	Project Number: 20070210
Depth to Product (ft): -	Date: 5/29/22
Depth to Water (ft): 14.59	One Well Volume (gal): 1.25
Product Thickness (ft): -	Flow Rate (mL/min): 300
Depth to Bottom (ft): 22.15	Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1404	0.40	14.56	16.9	11.37	2.550	0.27	-225.6	12.0	
1409	0.79	14.57	16.7	11.33	2.285	0.15	-222.4	7.91	
1414	1.19	14.57	16.7	11.32	2.240	0.10	-226.4	4.71	
1419	1.59	14.57	16.7	11.32	2.206	0.07	-233.1	2.98	
1424	1.98	14.57	16.6	11.32	2.202	0.06	-235.1	2.97	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection			
C023 - PZM008		1430		Well has been found and is accessible without hazards. If no, explain in the comments section. ✓			
Sampling Parameters				Well Pad Condition			
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping ✓			
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping			
TPH-GRO				Poor: heavily cracked			
TPH-DRO		BTEX and naphthalene	✗	Unsure: pad, has been buried by site activities			
O&G				Bolts in place N/A			
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Casing Condition			
TCL SVOCs				Casing is free from damage and visibly marked with the Well ID ✓			
TAL Metals and Mercury (total)				Well Condition			
TAL Metals and Mercury (dissolved)				Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)			
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified ✓			
PCB				Well is bent or broken but is able to be used			
Matrix Spike				Well is broken and is not able to be used			
Duplicate				Well is blocked and is not able to be used			
Comments: NO Vent+ CAP or Permit				Cap is present ✓			
				Well permit is present N/A			
Sampled By: JSP							

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C023-P2M008	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): —	Date: 6/23/22
Depth to Water (ft): 14.79	One Well Volume (gal): 1.18
Product Thickness (ft): —	Flow Rate (mL/min): 320
Depth to Bottom (ft): 22.04	Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1440	0.42	14.79	18.4	11.32	2.197	0.16	-254.4	6.38	
1445	0.85	14.79	19.2	11.32	2.109	0.04	-268.2	3.83	
1450	1.27	14.79	18.1	11.34	2.167	0.02	-277.6	2.83	
1455	1.69	17.39	18.2	11.74	2.161	0.01	-283.9	1.50	
1505	2.11		17.6	11.34	2.160	0.00	-286.7	1.77	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
C023 - P2M008	1505	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>							
		Well Pad Condition							
Sampling Parameters		Good: no visible cracks and is sloping <input checked="" type="checkbox"/>							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO				Unsure: pad has been buried by site activities					
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Bolts in place					
O&G				Bolts are missing					
Total Cyanide		VOC,		Well Casing Condition					
TCL SVOCs		SVOC, TAL		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>					
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Well Condition					
TAL Metals and Mercury (dissolved)		Ammonia, COD,		Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft					
Hexavalent Chromium		Chloride, Turbidity,		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>					
PCB		TDS,		Well is bent or broken but is able to be used					
Matrix Spike		Specific Conductance		Well is broken and is not able to be used					
Duplicate				Well is blocked and is not able to be used					
				Cap is present not vented <input checked="" type="checkbox"/>					
				Well permit is present <input checked="" type="checkbox"/>					

Comments:

Sampled By

[Signature]

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C024-P2M007	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): None	Date: 5/23/22
Depth to Water (ft): 14.17	One Well Volume (gal): 1.31
Product Thickness (ft): -	Flow Rate (mL/min): 240
Depth to Bottom (ft): 22.20	Length of time Purged (min): 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1402	0.32	14.42	18.7	9.23	1.632	0.76	638	2.41	
1407	0.63	14.48	18.5	9.32	1.657	0.20	50.9	3.10	
1412	0.95	14.68	18.5	9.38	1.825	0.13	20.3	3.36	
1417	1.27	14.74	17.9	9.38	1.998	0.11	-57.9	2.25	
1422	1.59	14.75	18.3	9.41	2.162	0.08	108.4	3.39	
1427	1.90	14.75	18.8	9.28	2.262	0.08	131.0	4.94	7
1432	2.22	14.76	18.7	9.29	2.237	0.07	140.0	3.43	
1437	2.54	-	18.4	9.30	2.236	0.08	145.2	3.11	

SAMPLE RECORD AND WELL DETAILS

Sample ID C024-P2M007		Time Collected 1442		Well Inspection			
				Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>			
				Well Pad Condition			
Sampling Parameters				Good: no visible cracks and is sloping <input checked="" type="checkbox"/>			
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping			
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked			
TPH-GRO				Unsure: pad has been buried by site activities			
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Bolts in place			
O&G				Bolts are missing <input checked="" type="checkbox"/> NA			
Total Cyanide		VOC, SVOC, TAL		Well Casing Condition			
TCL SVOCs		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>			
TAL Metals and Mercury (total)				Well Condition			
TAL Metals and Mercury (dissolved)				Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)			
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>			
PCB				Well is bent or broken but is able to be used			
Matrix Spike				Well is broken and is not able to be used			
Duplicate				Well is blocked and is not able to be used			
				Cap is present <input checked="" type="checkbox"/>			
				Well permit is present <input checked="" type="checkbox"/>			
Sampled By FJP		Comments: No Vend Cap					

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: **C026-P2M067**

Project Name: ~~RWM-OW~~ **COAGU**

Well Diameter (in): **2"**

Project Number: ~~20010103~~ **20010210**

Depth to Product (ft): **—**

Date: **9/19/22**

Depth to Water (ft): **11.91**

One Well Volume (gal): **1.2**

Product Thickness (ft): **—**

Flow Rate (mL/min): **300 → 200 → 100**

Depth to Bottom (ft): **19.23**

Length of time Purged (min): **25**

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1424	/	13.72	21.4	8.01	1.349	0.40	-123.0	18.8	
1429		15.88	21.1	8.44	1.281	0.27	-112.9	18.1	
1434		17.70	21.7	8.75	1.284	0.37	-83.6	16.4	
1439		18.0	23.7	8.89	1.304	0.45	-80.9	15.9	
1444		18.30	24.7	9.11	1.357	0.41	-87.3	9.1	
1449		18.49	25.6	9.19	1.361	0.50	-90.2	7.38	
1454		18.58	25.8	9.23	1.372	0.48	-91.2	8.4	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C026-P2M067	1500	Well has been found and is accessible without hazards. If no, explain in the comments section.	
		NO	
Well Pad Condition		Good: no visible cracks and is sloping	
Sampling Parameters		Fair: some visible cracks and/or not sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			Poor: heavily cracked
TPH-DRO		BTEX and naphthalene	Unsured: pad has been buried by site activities
O&G			Bolts in place
Total Cyanide		VOC, SVOC, TAL	Bolts are missing
TCL SVOCs			Well Casing Condition
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Casing is free from damage and visibly marked with the Well ID
TAL Metals and Mercury (dissolved)			Well Condition
Hexavalent Chromium		Matrix Spike Duplicate	Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)
PCB			Well is structurally sound: not bent, broken, and no blockage identified
Matrix Spike Duplicate			Well is bent or broken but is able to be used
			Well is broken and is not able to be used
			Well is blocked and is not able to be used
			Cap is present
			Well permit is present
Sampled By	Comments: Well was Burred w/ soil ≈ 1' BGS Needs Riser, Soil filling up Above CAP		

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C026 - P2M007	Project Name: COA RW
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): —	Date: 5/24/22
Depth to Water (ft): 14.68	One Well Volume (gal): 5.29
Product Thickness (ft): —	Flow Rate (mL/min): 270
Depth to Bottom (ft): 47.15	Length of time Purged (min): 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1039	0.32	15.22	16.6	8.59	1.325	8.70	178.9	5.20	
1044	0.63	15.20	16.5	8.88	1.384	8.04	167.5	4.56	
1049	0.95	15.20	16.6	8.80	2.061	6.31	168.9	4.53	
1054	1.27	15.20	16.7	8.24	6.85	1.79	-61.5	7.92	
1059	1.59	15.2	16.5	7.74	14.44	0.69	-163.1	9.16	
1104	1.90	15.2	16.6	7.60	16.75	0.35	-177.7	5.70	
1109	2.22	15.2	16.8	7.51	16.94	0.25	-167.9	4.57	2
1114	2.54	15.2	16.6	7.49	16.95	0.20	-167.8	4.72	2 ✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection
C026 - P2M007	1119	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓
Sampling Parameters		Well Pad Condition
Parameter	Collected?	Good: no visible cracks and is sloping
TCL-VOCs		Fair: some visible cracks and/or not sloping
TPH-GRO		Poor: heavily cracked
TPH-DRO		Unsafe: pad has been buried by site activities
O&G		Bolts in place NA
		Bolts are missing
Total Cyanide		Well Casing Condition
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID X
TAL Metals and Mercury (total)		Well Condition
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
Hexavalent Chromium		_____ ft x _____ gal/ft = _____ (gal)
PCB		Well is structurally sound: not bent, broken, and no blockage identified ✓
Matrix Spike		Well is bent or broken but is able to be used
Duplicate		Well is broken and is not able to be used
		Well is blocked and is not able to be used
		Cap is present +
		Well permit is present

Sampled By: **[Signature]** Comments: **NOT MARKED w/ ID, NO PERMIT**
NO Well CASING Covers, NO Vent CAP

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C026-P2M007</u>	Project Name: <u>COA GW</u>
Well Diameter (in): <u>2"</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>None</u>	Date: <u>6/23/22</u>
Depth to Water (ft): <u>14.60</u>	One Well Volume (gal): <u>5.27</u>
Product Thickness (ft): <u>→</u>	Flow Rate (mL/min): <u>320</u>
Depth to Bottom (ft): <u>46.89</u>	Length of time Purged (min): <u>30</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1245	0.42	15.43	17.6	7.77	17.05	0.32	-162.7	6.48	
1250	0.85	15.28	17.6	7.70	17.13	0.26	-159.9	9.43	
1255	1.27	15.27	17.6	7.66	17.18	0.21	-156.3	6.88	
1300	1.69	15.26	17.6	7.64	17.18	0.20	-153.1	6.22	
1305	2.11	15.25	17.7	7.63	17.17	0.20	-153.0	5.97	
1310	2.54	15.25	17.6	7.56	17.18	0.22	-143.7	4.62	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C026 - P2M007</u>	<u>1315</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	X
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride,	
PCB		Turbidity,	
Matrix Spike		TDS,	
Duplicate		Specific Conductance	
		Well Casing Condition	
		Casing is free from damage and visibly marked with the Well ID ①	
		Well Condition	
		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified ②	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present N	
Sampled By	Comments: <u>ID Not Visible, No permit, CASING LIP/CAP Missing</u>		

**Low Flow Sampling
Purge Log** *CO27-PZM012*



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO27-PZM012	Project Name: <i>COA GW</i>
Well Diameter (in): <i>2"</i>	Project Number: <i>Z0010210</i>
Depth to Product (ft): <i>None</i>	Date: <i>5/5/21</i>
Depth to Water (ft): <i>4.58</i>	One Well Volume (gal): <i>2.119</i>
Product Thickness (ft): <i>NA</i>	Flow Rate (mL/min): <i>360</i>
Depth to Bottom (ft): 17.50 <i>17.50</i>	Length of time Purged (min): <i>35</i>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
<i>1246</i>	<i>.48</i>	<i>5.52</i>	<i>17.47</i>	<i>12.55</i>	<i>1.44</i>	<i>5.20</i>	<i>-409</i>	<i>3.81</i>	<i>pH-Clean Sens</i>
<i>1251</i>	<i>.96</i>	<i>5.41</i>	<i>16.97</i>	<i>12.97</i>	<i>1.44</i>	<i>8.25</i>	<i>-395</i>	<i>3.07</i>	
<i>1250</i>	<i>1.44</i>	<i>5.50</i>	<i>16.10</i>	<i>9.01</i>	<i>1.48</i>	<i>0.19</i>	<i>-318</i>	<i>3.29</i>	
<i>1301</i>	<i>1.92</i>	<i>5.53</i>	<i>16.32</i>	<i>8.33</i>	<i>1.47</i>	<i>1.20</i>	<i>-327</i>	<i>3.38</i>	<i>pH-normalizing</i>
<i>1306</i>	<i>2.4</i>	<i>5.52</i>	<i>16.46</i>	<i>7.82</i>	<i>1.46</i>	<i>0.00</i>	<i>-326</i>	<i>2.81</i>	
<i>1311</i>	<i>2.88</i>	<i>5.54</i>	<i>16.50</i>	<i>7.76</i>	<i>1.49</i>	<i>0.00</i>	<i>-327</i>	<i>2.51</i>	
<i>1316</i>	<i>3.34</i>	<i>5.54</i>	<i>16.03</i>	<i>7.73</i>	<i>1.51</i>	<i>5.45</i>	<i>-322</i>	<i>1.81</i>	

SAMPLE RECORD AND WELL DETAILS

Sample ID <i>CO27-PZM012</i>		Time Collected <i>1321</i>		Well Inspection	
				Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
				Well Pad Condition	
Sampling Parameters				Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO				Unsured: pad has been buried by site activities	
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Bolts in place	
O&G				Bolts are missing <i>NA</i>	
Total Cyanide		VOC,		Well Casing Condition	
TCL SVOCs		SVOC, TAL		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Well Condition	
TAL Metals and Mercury (dissolved)		Ammonia, COD,		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
Hexavalent Chromium		Alkalinity, Chloride, Turbidity,		<i>13</i> ft x _____ gal/ft = _____ (gal)	
PCB		TDS,		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Matrix Spike		Specific Conductance		Well is bent or broken but is able to be used	
Duplicate				Well is broken and is not able to be used	
				Well is blocked and is not able to be used	
				Cap is present <i>Y</i>	
				Well permit is present <i>Y</i>	
Sampled By <i>TJB</i>		Comments: <i>pH sensor problems, No vent cap</i>			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO 27 - P2m 012	Project Name: COA GW
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): -	Date: 6/29/22
Depth to Water (ft): 4.15	One Well Volume (gal): 2.16
Product Thickness (ft): -	Flow Rate (mL/min): 300
Depth to Bottom (ft): 17.42	Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1051	0.4	4.19	17.8	11.40	1.471	0.05	3618	1.11	
1056	0.79	4.19	18.6	11.50	1.478	0.05	3656	0.79	
1101	4.19	4.22	18.6	11.58	1.473	0.02	370.6	0.70	
1106	1.59	4.23	18.6	11.53	1.473	0.01	371.5	0.55	
1111	1.98	4.22	18.8	11.54	1.474	0.01	3735	0.72	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
CO 27 - P2m 012	1116	Well has been found and is accessible without hazards. If no, explain in the comments section. ①							
		Well Pad Condition							
Sampling Parameters		Good: no visible cracks and is sloping							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO		BTEX and naphthalene	X	Unsure: pad has been buried by site activities					✓
TPH-DRO				Bolts in place					
O&G		Bolts are missing							
Total Cyanide		Well Casing Condition							
TCL SVOCs		VOC, SVOC, TAL		Casing is free from damage and visibly marked with the Well ID					✓
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Well Condition					
TAL Metals and Mercury (dissolved)		Ammonia, COD,		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft					
Hexavalent Chromium		Chloride, Turbidity,		Well is structurally sound: not bent, broken, and no blockage identified					✓
PCB		TDS,		Well is bent or broken but is able to be used					
Matrix Spike		Specific Conductance		Well is broken and is not able to be used					
Duplicate				Well is blocked and is not able to be used					
Sampled By: TJH		Cap is present not vented ✓							
Comments: ① - Access blocked by high vegetation, Required cutting w/ string trimmer		Well permit is present ✓							

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO27-P2M 046	Project Name: COA GW
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): None	Date: 5/5/22
Depth to Water (ft): 4.05	One Well Volume (gal):
Product Thickness (ft):	Flow Rate (mL/min) 360
Depth to Bottom (ft): 51.15	Length of time Purged (min) 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1412	.48	—	17.87	7.27	1.24	9.07	-251	1.87	
1417	.96	7.23	17.97	7.24	1.24	7.85	-253	2.82	
1422	1.44	7.25	17.96	7.31	1.81	7.50	-327	2.09	
1427	1.92	7.25	18.31	7.32	1.85	8.08	-330	1.24	
1432	2.4	7.25	17.96	7.32	1.87	9.64	-329	1.09	
1437	2.88	7.25	17.93	7.33	1.89	4.38	-331	1.15	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
CO27-P2M 046	1442	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓							
		Well Pad Condition							
Sampling Parameters		Good: no visible cracks and is sloping ✓							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO		BTEX and naphthalene	✓	Unsure: pad has been buried by site activities					
TPH-DRO				Bolts in place				NA	
O&G		Bolts are missing							
Total Cyanide		VOC,		Well Casing Condition					
TCL SVOCs		SVOC, TAL		Casing is free from damage and visibly marked with the Well ID ✓					
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Well Condition					
TAL Metals and Mercury (dissolved)		Ammonia, COD, Alkalinity,		Casing Volume: 1" ID = 0.041 gal/R - 2" ID = 0.163 gal/R - 4" ID = 0.653 gal/R - 6" ID = 1.47 gal/R					
Hexavalent Chromium		Chloride, Turbidity,		Well is structurally sound: not bent, broken, and no blockage identified ✓					
PCB		TDS,		Well is bent or broken but is able to be used					
Matrix Spike		Specific Conductance		Well is broken and is not able to be used					
Duplicate				Well is blocked and is not able to be used					
				Cap is present ✓					
				Well permit is present ✓					

Comments:

Sampled By: **JSP** No Next CAP

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C027 - P2M046	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): -	Date: 6/29/22
Depth to Water (ft): 6.74	One Well Volume (gal): 7.23
Product Thickness (ft): -	Flow Rate (mL/min): 320
Depth to Bottom (ft): 51.18	Length of time Purged (min): 20

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1012	0.42	6.79	18.3	11.40	1.899	0.04	-373.3	9.71	
1017	0.85	6.82	18.6	11.55	1.913	0.04	-382.3	4.01	
1022	1.27	6.83	18.7	11.59	1.914	0.05	-386.0	4.89	
1027	1.69	6.83	18.5	11.59	1.908	0.05	-386.5	3.57	
1032									

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C027 P2M046	1032	Well has been found and is accessible without hazards. If no, explain in the comments section. ①	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	X
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride,	
PCB		Turbidity,	
Matrix Spike		TDS,	
Duplicate		Specific Conductance	

Well is structurally sound: not bent, broken, and no blockage identified ✓

Well is bent or broken but is able to be used

Well is broken and is not able to be used

Well is blocked and is not able to be used

Cap is present Not vented ✓

Well permit is present N

Sampled By: JVP

Comments: ① - Access was blocked due to high brush. Required cutting w/ string trimmer.

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C028-P2M010
 Well Diameter (in): 2"
 Depth to Product (ft): ~
 Depth to Water (ft): 11.54
 Product Thickness (ft): ~
 Depth to Bottom (ft): 27.13

Project Name: COA-GL
 Project Number: 20010210
 Date: 5/26/22
 One Well Volume (gal): 1.73
 Flow Rate (mL/min): 320
 Length of time Purged (min): 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1439	0.42	11.54	16.8	8.78	3.949	2.92	16.2	0.13	
1444	0.85	11.54	16.6	8.82	3.555	1.14	52.3	2.58	
1449	1.27	11.54	16.5	8.84	3.231	0.74	83.4	2.00	
1454	1.69	11.54	16.5	8.83	3.158	0.78	97.3	1.87	7
1459	2.11	11.54	16.5	8.84	2.121	0.80	92.1	1.31	7
1504	2.54	11.54	16.4	8.84	3.164	0.91	86.2	1.95	7

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C028-P2M010</u>	<u>1510</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsured: pad has been buried by site activities <input checked="" type="checkbox"/>	
O&G		Bolts in place	
Total Cyanide		Bolts are missing <input checked="" type="checkbox"/>	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft	
PCB		_____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Duplicate		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present <u>(vent)</u> <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	
Sampled By	Comments:		
<u>TSP</u>			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO28-P2A010	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): —	Date: 6/22/22
Depth to Water (ft): 11.60	One Well Volume (gal): 1.7
Product Thickness (ft): —	Flow Rate (mL/min): 300
Depth to Bottom (ft): 22.10	Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1505	0.4	12.61	19.7	8.70	7.35	5.07	96.6	2.11	
1510	0.79	12.61	19.5	8.71	7.23	5.17	125.3	1.10	
1515	0.79	12.62	19.5	8.69	7.20	5.18	126.9	1.42	
1520	1.59	12.62	19.7	8.68	7.11	5.90	127.5	1.50	
1525	1.98	12.62	19.3	8.71	7.04	4.89	129.6	1.51	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection			
CO28-P2A010	1530	Well has been found and is accessible without hazards. If no, explain in the comments section.		<input checked="" type="checkbox"/>	
		Well Pad Condition			
Sampling Parameters		Good: no visible cracks and is sloping		<input type="checkbox"/>	
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO				Unsure: pad has been buried by site activities	
TPH-DRO		BTEX and naphthalene	X	Bolts in place	
O&G				Bolts are missing	
Total Cyanide		VOC,		Well Casing Condition	
TCL SVOCs		SVOC, TAL		Casing is free from damage and visibly marked with the Well ID	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Well Condition	
TAL Metals and Mercury (dissolved)		Ammonia, COD,		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
Hexavalent Chromium		Alkalinity, Chloride, Turbidity,		_____ ft x _____ gal/ft = _____ (gal)	
PCB		TDS, Specific		Well is structurally sound: not bent, broken, and no blockage identified	
Matrix Spike		Conductance		Well is bent or broken but is able to be used	
Duplicate				Well is broken and is not able to be used	
				Well is blocked and is not able to be used	
				Cap is present	
				Well permit is present	
Sampled By: TJP	Comments: No Permit				

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C028-12A048

Project Name: COA - GV

Well Diameter (in): 2"

Project Number: 20010210

Depth to Product (ft): -

Date: 5/26/22

Depth to Water (ft): 12.03

One Well Volume (gal): 7.97

Product Thickness (ft): -

Flow Rate (mL/min): 320

Depth to Bottom (ft): 60.91

Length of time Purged (min): 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1317	0.42	12.40	17.7	9.89	0.696	0.51	-202.3	9.5	
1322	0.85	12.38	17.8	9.40	0.689	0.24	-220.5	9.5	
1327	1.27	12.39	17.9	9.33	0.687	0.18	-238.5	11.1	
1332	1.69	12.39	17.9	9.31	0.687	0.14	-236.6	11.1	
1337	2.11	12.39	17.9	9.30	0.686	0.12	-239.8	11.7	
1342	2.54	12.39	18.0	9.29	0.689	0.09	-240.5	10.88	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
<u>C028-12A048</u>	<u>1350</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓							
Sampling Parameters		Well Pad Condition							
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping					
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping					
TPH-GRO		BTEX and naphthalene	✓	Poor: heavily cracked					
TPH-DRO				Unsured: pad has been buried by site activities ✗					
O&G				Bolts in place					
Total Cyanide				Bolts are missing ✗					
TCL SVOCs		VOC, SVOC, TAL		Well Casing Condition					
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Casing is free from damage and visibly marked with the Well ID ✓					
TAL Metals and Mercury (dissolved)		Ammonia, COD,		Well Condition					
Hexavalent Chromium		Alkalinity, Chloride, Turbidity,		Casing Volume. 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft					
PCB		TDS, Specific Conductance		_____ ft x _____ gal/ft = _____ (gal)					
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified ✓							
Duplicate		Well is bent or broken but is able to be used							
		Well is broken and is not able to be used							
		Well is blocked and is not able to be used							
		Cap is present (vent) ✓							
		Well permit is present ✓							

Comments:

Sampled By [Signature]

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO 28-P2n048</u>	Project Name: <u>COA GW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>-</u>	Date: <u>6/27/22</u>
Depth to Water (ft): <u>12.01</u>	One Well Volume (gal): <u>7.9</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min): <u>400</u>
Depth to Bottom (ft): <u>60.60</u>	Length of time Purged (min): <u>35</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
11:09	0.53	12.44	18.1	8.91	0.741	0.18	-246.9	9.8	
11:14	1.06	12.45	18.2	9.10	0.726	0.13	-250.9	11.3	
11:19	1.59	12.47	18.2	9.88	0.748	0.14	-268	10.7	
11:24	2.11	12.48	18.1	10.10	0.772	0.14	-272.5	10.2	
11:29	2.64	12.50	18.1	10.20	0.771	0.14	-272.3	9.4	
11:34	3.17	12.51	18.1	10.21	0.771	0.12	-272.5	8.94	✓
11:39	3.70	12.51	18.1	10.26	0.790	0.13	-275.1	8.56	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>CO 28-P2n048</u>	<u>11:45</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	X
TPH-DRO		VOC,	
O&G		SVOC, TAL	
Total Cyanide		Metals and mercury,	
TCL SVOCs		Sulfate,	
TAL Metals and Mercury (total)		Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia,	
Hexavalent Chromium		COD,	
PCB		Alkalinity,	
Matrix Spike		Chloride,	
Duplicate		Turbidity,	
		TDS,	
		Specific Conductance	

Well Casing Condition	
Casing is free from damage and visibly marked with the Well ID	✓
Well Condition	
Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
ft x gal/ft = (gal)	
Well is structurally sound: not bent, broken, and no blockage identified	✓
Well is bent or broken but is able to be used	
Well is broken and is not able to be used	
Well is blocked and is not able to be used	
Cap is present	
Well permit is present	N

Sampled By	Comments:
<u>JSR</u>	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO30-PEM015</u>	Project Name: <u>COA 64</u>
Well Diameter (in): <u>2"</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u> </u>	Date: <u>5/11/22</u>
Depth to Water (ft): <u>10.95</u>	One Well Volume (gal): <u>2.92</u>
Product Thickness (ft): <u> </u>	Flow Rate (mL/min): <u>280</u>
Depth to Bottom (ft): <u>27.65</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1210	0.37	10.95	18.90	12.12	2.44	0.00	-202	5.54	
1215	0.74	10.95	18.55	12.12	2.53	0.00	-204	5.23	
1220	1.11	10.95	18.47	12.16	2.53	0.00	-210	1.43	
1225	1.48	10.95	18.51	12.36	2.53	0.00	-218	2.08	
1230	1.95	10.95	18.53	12.44	2.54	0.00	-220	1.87	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection								
<u>CO30-PEM015</u>	<u>1235</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓								
		Well Pad Condition								
Sampling Parameters		Good: no visible cracks and is sloping ✓								
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping						
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked						
TPH-GRO			Unsure: pad has been buried by site activities							
TPH-DRO		BTEX and naphthalene	✓	Bolts in place					NA	
O&G			Bolts are missing							
Total Cyanide		Well Casing Condition								
TCL SVOCs		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Casing is free from damage and visibly marked with the Well ID ✓						
TAL Metals and Mercury (total)			Well Condition							
TAL Metals and Mercury (dissolved)			Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft							
Hexavalent Chromium			_____ ft x <u>163</u> gal/ft = _____ (gal)							
PCB			Well is structurally sound: not bent, broken, and no blockage identified ✓							
Matrix Spike			Well is bent or broken but is able to be used ✓							
Duplicate			Well is broken and is not able to be used ✓							
			Well is blocked and is not able to be used ✓							
		Cap is present ✓								
		Well permit is present N								

Comments:

Sampled By [Signature]

PH Sensor Ready high, No Verd Cap

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C030-PEM060	Project Name: COA
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): NONE	Date: 5/11/22
Depth to Water (ft): 12.83	One Well Volume (gal): 9.34
Product Thickness (ft): —	Flow Rate (mL/min): 32.0
Depth to Bottom (ft): 70.1	Length of time Purged (min): 35

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1258	0.42	11.96	19.76	8.21	9.40	12.58	-226	9.2	
1303	0.84	11.96	19.58	8.04	9.61	12.39	-206	12.8	
1308	1.26	11.94	19.69	7.99	9.70	11.15	-205	3.93	
1313	1.68	11.94 11.94	19.66	7.87	9.59	10.75	-205	2.85	
1318	2.1	11.93	19.95	7.85	9.69	10.58	-205	7.22	?
1323	2.52	11.93	19.69	7.83	9.64	10.75	-204	4.64	?
1728	3.0	11.93	19.64	7.83	9.01	10.33	-204	4.00	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C030-PEM060	1330	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsured: pad has been buried by site activities	
O&G		Bolts in place <input checked="" type="checkbox"/>	
		Bolts are missing <input checked="" type="checkbox"/>	
Total Cyanide		Well Casing Condition	
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)		Well Condition	
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
Hexavalent Chromium		r x <u>163</u> gal/ft = _____ (gal)	
PCB		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Matrix Spike		Well is bent or broken but is able to be used	
Duplicate		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	

Comments: **No vent Cap**

Sampled By: **[Signature]**

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO30-P2M 060</u>	Project Name: <u>COA GL</u>
Well Diameter (in): <u>2</u>	Project Number: <u>2001210</u>
Depth to Product (ft): <u>-</u>	Date: <u>5/7/21</u>
Depth to Water (ft): <u>11.32</u>	One Well Volume (gal): <u>2.66</u>
Product Thickness (ft): <u>2.00</u>	Flow Rate (mL/min): <u>300</u>
Depth to Bottom (ft): <u>27.63</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1250	0.4	11.33	18.7	12.37	2.825	0.20	-210.9	5.13	
1255	0.8	11.33	18.3	12.22	2.811	0.02	-218.9	3.77	
1300	1.2	11.33	18.3	12.23	2.802	0.01	-223.5	4.20	
1305	1.6	11.33	18.4	12.25	2.790	0.02	-225.6	2.57	
1310	2.0	11.33	18.5	12.23	2.785	0.04	-228.9	1.89	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection
<u>CO30-P2M 060</u>	<u>1315</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>
Sampling Parameters		Well Pad Condition
Parameter	Collected?	Good: no visible cracks and is sloping <input checked="" type="checkbox"/>
TCL-VOCs		Fair: some visible cracks and/or not sloping
TPH-GRO		Poor: heavily cracked
TPH-DRO		Unsure: pad has been buried by site activities
O&G		Bolts in place
Total Cyanide		Bolts are missing <input checked="" type="checkbox"/>
TCL SVOCs		Well Casing Condition
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>
TAL Metals and Mercury (dissolved)		Well Condition
Hexavalent Chromium		Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft
PCB		_____ ft x _____ gal/ft = _____ (gal)
Matrix Spike Duplicate		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>
		Well is bent or broken but is able to be used
		Well is broken and is not able to be used
		Well is blocked and is not able to be used
		Cap is present <u>not vented</u> <input checked="" type="checkbox"/>
		Well permit is present <input checked="" type="checkbox"/>
Comments:		
Sampled By: <u>[Signature]</u>		

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C030-P2M060	Project Name: COA GW
Well Diameter (in): 2	Project Number: 200/210
Depth to Product (ft): -	Date: 6/7/22
Depth to Water (ft): 12.84	One Well Volume (gal): 9.8
Product Thickness (ft): -	Flow Rate (mL/min): 300
Depth to Bottom (ft): 73.00	Length of time Purged (min): 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1335	0.4	13.04	19.1	8.74	10.74	0.59	211.1	4.09	
1340	0.8	13.03	19.1	8.33	10.73	0.44	192.8	1.77	
1345	1.2	12.03	19.0	8.16	10.73	0.40	193.2	4.04	
1350	1.6	13.02	19.0	8.98	10.73	0.24	189.3	2.02	>
1355	2.0	13.02	19.0	7.95	10.72	0.26	188.9	1.20	>
1400	2.4	13.00	19.0	7.93	10.72	0.27	188.0	2.91	>

SAMPLE RECORD AND WELL DETAILS

Sample ID C030-P2M060		Time Collected 1405		Well Inspection Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Well Pad Condition		Good: no visible cracks and is sloping		Well Casing Condition	
Fair: some visible cracks and/or not sloping		Poor: heavily cracked		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
Unsured: pad has been buried by site activities		Bolts in place		Well Condition	
Bolts are missing NA		Well Condition		Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft	
Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>		Well is bent or broken but is able to be used		Well is blocked and is not able to be used	
Well is broken and is not able to be used		Well is blocked and is not able to be used		Cap is present (Not Vented)	
Well permit is present		Well permit is present		Well permit is present	

Sampled By TSP	Comments:
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Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C036-P2M008	Project Name: COA CU
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): -	Date: 5/9/22
Depth to Water (ft): 5.41	One Well Volume (gal): 143
Product Thickness (ft): -	Flow Rate (mL/min): 300
Depth to Bottom (ft): 14.2	Length of time Purged (min): 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1509	0.4	5.65	18.47	9.70	2.26	4.31	-195	2.96	
1514	0.8	5.68	17.24	9.75	2.35	3.80	-192	1.75	
1519	1.2	5.70	17.07	9.77	2.36	1.67	-178	2.18	
1524	1.6	5.70	16.87	9.76	2.48	1.86	-175	1.03	
1529	2.0	5.70	16.94	9.75	2.51	2.15	-173	1.24	
1534	2.4	5.71	17.02	9.74	2.53	2.52	-165	1.07	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID C036-P2M008		Time Collected 1540		Well Inspection			
				Well has been found and is accessible without hazards. If no, explain in the comments section.			
				Well Pad Condition			
				Good: no visible cracks and is sloping			
				Fair: some visible cracks and/or not sloping			
				Poor: heavily cracked			
				Unsure: pad has been buried by site activities			
Sampling Parameters				Bolts in place			
Parameter	Collected?	Parameter	Collected?	Bolts are missing			
TCL-VOCs		Dissolved Zn and Cd		Well Casing Condition			
TPH-GRO		BTEX and naphthalene	✓	Casing is free from damage and visibly marked with the Well ID			
TPH-DRO				Well Condition			
O&G		VOC, SVOC, TAL		Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)			
Total Cyanide		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well is structurally sound: not bent, broken, and no blockage identified			
TCL SVOCs				Well is bent or broken but is able to be used			
TAL Metals and Mercury (total)				Well is broken and is not able to be used			
TAL Metals and Mercury (dissolved)				Well is blocked and is not able to be used			
Hexavalent Chromium				Cap is present			
PCB				Well permit is present			
Matrix Spike Duplicate							
Sampled By JSP		Comments:					

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO36-P2M043	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 70010210
Depth to Product (ft): NONE	Date: 5/10/24
Depth to Water (ft): 6.21	One Well Volume (gal): 749
Product Thickness (ft): -	Flow Rate (mL/min): 320
Depth to Bottom (ft): 52.15	Length of time Purged (min): 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0930	0.4	6.69	17.58	11.70	2.46	2.04	-237	5.06	
0935	0.8	6.70	17.55	11.82	2.68	0.14	-243	6.53	
0940	1.2	6.71	17.59	11.76	3.00	0.00	-252	6.62	
0945	1.6	6.72	17.54	11.62	3.19	2.08	-249	5.27	
0950	2.0	6.72	17.55	11.57	3.21	0.00	-263	5.16	7
0955	2.4	6.72	17.56	11.49	3.29	0.00	-264	4.91	7
1000	2.8	6.72	17.55	11.48	3.33	0.00	-266	4.99	
1005	3.2	6.77	17.56	11.46	3.35	0.00	-265	3.78	

SAMPLE RECORD AND WELL DETAILS

Sample ID CO36-P2M043	Time Collected 1010	Well Inspection Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>
Well Pad Condition		Well Pad Condition
Sampling Parameters		Good: no visible cracks and is sloping <input checked="" type="checkbox"/>
Parameter	Collected?	Fair: some visible cracks and/or not sloping
TCL-VOCs		Poor: heavily cracked
TPH-GRO		Unsured: pad has been buried by site activities
TPH-DRO		Bolts in place <input checked="" type="checkbox"/>
O&G		Bolts are missing
Total Cyanide		Well Casing Condition
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>
TAL Metals and Mercury (total)		Well Condition
TAL Metals and Mercury (dissolved)		Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>
PCB		Well is bent or broken but is able to be used
Matrix Spike		Well is broken and is not able to be used
Duplicate		Well is blocked and is not able to be used
Comments:		Cap is present <input checked="" type="checkbox"/>
Sampled By JJP		Well permit is present <input checked="" type="checkbox"/>
No Vent Cap		

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO 37 - PLM 003</u>	Project Name: <u>COA GW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>Trace @ 18.47</u>	Date: <u>6/8/22</u>
Depth to Water (ft): <u>10.97</u>	One Well Volume (gal): <u>1.25</u>
Product Thickness (ft): <u>Trace</u>	Flow Rate (mL/min): <u>260</u>
Depth to Bottom (ft): <u>18.47</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1210	0.34	12.54	19.0	12.61	8.49	3.54	-149.7	4.16	
1215	0.69	—	19.4	12.62	8.41	3.53	-135.9	1.10	30
1220	1.03	—	19.2	12.68	8.37	3.39	-140.2	1.18	
1225	1.37	—	19.2	12.65	8.43	3.28	-145.8	1.09	
1230	1.72	—	19.0	12.65	8.48	3.26	-149.3	1.20	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>CO37- PLM003</u>	<u>1235</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ★	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	X
O&G			
Total Cyanide		VOC, SVOC, TAL	
TCL SVOCs		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	
TAL Metals and Mercury (total)			
TAL Metals and Mercury (dissolved)			
Hexavalent Chromium			
PCB			
Matrix Spike			
Duplicate			
Comments: <u>- See notes in Field Book</u>		Well Casing Condition	
Sampled By: <u>TJB</u>		Casing is free from damage and visibly marked with the Well ID ✓	
		Well Condition	
<u>- UNABLE to take D/W due to O/W probe being covered in Brown sludge/D-NAPL consistently</u> ★ - Heavy Brush Surrounding Well		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified ✓	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
Cap is present <u>Vented</u>			
Well permit is present ✓			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C037-PZM038</u>	Project Name: <u>COA G4</u>
Well Diameter (in): <u>2</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>None</u>	Date: <u>5/5/22</u>
Depth to Water (ft): <u>12.02</u>	One Well Volume (gal): <u>6.54</u>
Product Thickness (ft): <u>NA</u>	Flow Rate (mL/min): <u>320</u>
Depth to Bottom (ft): <u>52.16</u>	Length of time Purged (min): <u>3.5</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1120	0.4	12.30	17.58	11.51	2.27	0.99	-347	3.22	11?
1125	0.8	12.31	17.66	11.72	2.32	0.87	-356	1.97	11?
1130	1.2	12.39	17.73	11.72	2.34	0.67	-354	1.22	
1135	1.6	12.40	17.75	11.72	2.38	0.75	-356	1.23	
1140	2.0	12.41	17.69	11.70	2.34	0.02	-353	1.43	7
1145	2.4	12.41	17.56	11.76	2.34	0.00	-362	0.69	7
1150	2.8	12.40	17.50	11.74	2.34	0.00	-354	0.61	7 ✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C037-PZM038	1200	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn	
TPH-GRO		and Cd	
TPH-DRO		BTEX and naphthalene	✓
O&G			NA
Total Cyanide		VOC,	Well Casing Condition
TCL SVOCs		SVOC, TAL	Casing is free from damage and visibly marked with the Well ID ✓
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	Well Condition
TAL Metals and Mercury (dissolved)		Ammonia, COD, Alkalinity,	Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
Hexavalent Chromium		Chloride, Turbidity,	Well is structurally sound: not bent, broken, and no blockage identified ✓
PCB		TDS,	Well is bent or broken but is able to be used
Matrix Spike		Specific	Well is broken and is not able to be used
Duplicate		Conductance	Well is blocked and is not able to be used
Comments:		Cap is present ✓	
Sampled By: <u>JSR</u>		Well permit is present N	
Vent Cap Present, pH high			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO 37-038</u>	Project Name: <u>COA GW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>-</u>	Date: <u>6/8/22</u>
Depth to Water (ft): <u>11.64</u>	One Well Volume (gal): <u>6.2</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min): <u>360</u>
Depth to Bottom (ft): <u>49.68</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1325	0.48	11.84	18.9	11.75	2.381	0.19	-328.8	1.38	
1330	0.95	11.85	18.6	11.80	2.382	0.22	-338.2	1.70	
1335	1.43	11.85	18.5	11.82	2.392	0.28	-342.8	1.36	
1340	1.90	11.85	18.9	11.84	2.379	0.27	-345.6	1.52	7
1345	2.38	11.95	19.1	11.90	2.372	0.26	-347.5	1.37	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
<u>CO 37- PZM 038</u>	<u>1350</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✗							
		Well Pad Condition							
Sampling Parameters		Good: no visible cracks and is sloping ✓							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO			BTEX and naphthalene		Unsure: pad has been buried by site activities				
TPH-DRO		VOC, SVOC, TAL		✗	Bolts in place				
O&G			Bolts are missing						
Total Cyanide		Well Casing Condition							
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID ✓							
Well Condition		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)							
TAL Metals and Mercury (total)		Well is structurally sound: not bent, broken, and no blockage identified ✓							
TAL Metals and Mercury (dissolved)		Well is bent or broken but is able to be used							
Hexavalent Chromium		Well is broken and is not able to be used							
PCB		Well is blocked and is not able to be used							
Matrix Spike		Cap is present <u>vented</u>							
Duplicate		Well permit is present M							
Sampled By	Comments: <u>✗ - Heavy Brush Blocking Access</u>								

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C038-PZM006</u>	Project Name: <u>COA RW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>20060210</u>
Depth to Product (ft): <u>-</u>	Date: <u>5/9/22</u>
Depth to Water (ft): <u>5.31</u>	One Well Volume (gal): <u>1.7</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min): <u>4.00</u>
Depth to Bottom (ft): <u>15.75</u>	Length of time Purged (min): <u>30</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1319	1.06	5.44	16.67	8.78	2.31	10.35	-333	6.54	
1324	1.59	5.43	16.44	8.09	2.30	3.69	-276	5.54	
1329	2.15	5.41	16.33	7.65	2.28	7.81	-264	3.01	
1334	2.68	5.41	16.27	7.26	2.27	7.99	-240	3.54	
1339	3.21	5.41	16.29	7.18	2.27	7.80	-234	2.43	
1344	3.74	5.41	16.30	7.10	2.27	7.45	-231	3.59	

SAMPLE RECORD AND WELL DETAILS

Sample ID <u>C038-PZM006</u>	Time Collected <u>1350</u>	Well Inspection	
		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
		Well Pad Condition	
		Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
		Fair: some visible cracks and/or not sloping	
		Poor: heavily cracked	
		Unsured: pad has been buried by site activities	
Sampling Parameters		Bolts in place	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	<input checked="" type="checkbox"/>
TPH-GRO		BTEX and naphthalene	
TPH-DRO		VOC, SVOC, TAL	
O&G		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	
Total Cyanide		Well Casing Condition	
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)		Well Condition	
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x <u>1.63</u> gal/ft = _____ (gal)	
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
PCB		Well is bent or broken but is able to be used	
Matrix Spike		Well is broken and is not able to be used	
Duplicate		Well is blocked and is not able to be used	
Comments:		Cap is present <input checked="" type="checkbox"/>	
Sampled By <u>[Signature]</u>		Well permit is present <input checked="" type="checkbox"/>	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C038-PZM 043	Project Name: COA GL
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): ~	Date: 5/9/22
Depth to Water (ft): 6.08	One Well Volume (gal): 7.1
Product Thickness (ft): ~	Flow Rate (mL/min): 300
Depth to Bottom (ft): 49.65	Length of time Purged (min): 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1402	0.48	7.65	17.93	6.54	1.62	2.02	-194	6.52	
1407	0.96	7.98	18.00	6.53	1.61	0.98	-187	8.66	
1412	1.44	8.17	18.06	6.50	1.60	2.74	-180	5.84	
1417	1.92	8.22	18.03	6.52	1.60	2.60	-176	6.72	
1422	2.4	8.23	18.04	6.53	1.60	0.59	-177	4.82	
1427	2.88	8.23	18.09	6.55	1.60	0.49	-175	3.77	

SAMPLE RECORD AND WELL DETAILS

Sample ID C038-PZM 043	Time Collected 1435	Well Inspection Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
Sampling Parameters		Well Pad Condition Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	✓
TPH-DRO		VOC,	
O&G		SVOC, TAL	
Total Cyanide		Metals and mercury,	
TCL SVOCs		Sulfate,	
TAL Metals and Mercury (total)		Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia,	
Hexavalent Chromium		COD,	
PCB		Alkalinity,	
Matrix Spike		Chloride,	
Duplicate		Turbidity,	
		TDS,	
		Specific Conductance	

Well Casing Condition
Casing is free from damage and visibly marked with the Well ID ✓

Well Condition
Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
ft x 165 gal/ft = _____ (gal)

Well is structurally sound: not bent, broken, and no blockage identified ✓

Well is bent or broken but is able to be used

Well is broken and is not able to be used

Well is blocked and is not able to be used

Cap is present ✓

Well permit is present ✓

Comments: **No Vent Cap**

Sampled By: **JSP**

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C039-P2M007	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010218
Depth to Product (ft): NONE	Date: 5/9/22
Depth to Water (ft): 5.60	One Well Volume (gal): 2.01
Product Thickness (ft): -	Flow Rate (mL/min): 360
Depth to Bottom (ft): 17.95	Length of time Purged (min): 35

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1040	0.48	~	16.89	11.09	2.52	10.80	-272	15.0	
1045	0.96	6.60	16.19	11.20	2.55	11.20	-282	8.09	
1050	1.44	6.80	15.93	11.23	2.57	0.61	-294	9.13	
1055	1.92	6.89	15.90	11.22	2.58	1.10	-271	9.6	
1100	2.4	6.79	15.96	11.21	2.56	8.74	-283	9.06	
1105	2.88	6.70	15.96	11.16	2.57	6.86	-282	8.99	
1110	3.34	6.65	15.98	11.16	2.57	6.91	-285	8.96	

SAMPLE RECORD AND WELL DETAILS

Sample ID C039-P2M007		Time Collected 1115		Well Inspection	
				Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
				Well Pad Condition	
				Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
				Fair: some visible cracks and/or not sloping	
				Poor: heavily cracked	
				Unsured: pad has been buried by site activities NA	
				Bolts in place	
				Bolts are missing	
				Well Casing Condition	
				Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
				Well Condition	
				Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
				Well is bent or broken but is able to be used	
				Well is broken and is not able to be used	
				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/>	
				Well permit is present <input checked="" type="checkbox"/>	
Sampled By [Signature]		Comments:			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: E039-P2M042	Project Name: COA 64
Well Diameter (in): 2	Project Number: 2001210
Depth to Product (ft): 7.48	Date: 5/9/22
Depth to Water (ft): 7.48	One Well Volume (gal): 6.27
Product Thickness (ft): 45.97	Flow Rate (mL/min): 360
Depth to Bottom (ft): 45.97	Length of time Purged (min): 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
11:34	0.48	7.59	17.03	11.66	2.78	3.18	-311	3.16	
11:37	0.96	7.60	17.35	11.86	2.75	0.97	-328	2.22	
11:44	1.44	7.60	17.33	11.70	2.72	4.43	-306	3.42	
11:49	1.92	7.63	17.50	11.72	2.70	3.54	-327	3.10	
11:54	2.4	7.63	17.73	11.73	2.69	3.81	-328	3.31	
11:59	2.88	7.63	17.88	11.72	2.63	4.21	-337	2.21	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection								
C039-PLM 042	1205	Well has been found and is accessible without hazards. If no, explain in the comments section.								
		Well Pad Condition								
Sampling Parameters		Good: no visible cracks and is sloping								
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping						
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked						
TPH-GRO		BTEX and naphthalene	✓	Unsure: pad has been buried by site activities						
TPH-DRO				Bolts in place						
O&G		Bolts are missing						N/A		
Total Cyanide		Well Casing Condition								
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID								
TAL Metals and Mercury (total)		Well Condition								
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x 163 gal/ft = _____ (gal)								
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified								✓
PCB		Well is bent or broken but is able to be used								
Matrix Spike Duplicate		Well is broken and is not able to be used								
		Well is blocked and is not able to be used								
		Cap is present								
		Well permit is present								N
Sampled By	Comments: PH appear elevated									

2001210

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C040-P2M008	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): —	Date: 5/10/22
Depth to Water (ft): 6.02	One Well Volume (gal): 1,93
Product Thickness (ft): —	Flow Rate (mL/min): 360
Depth to Bottom (ft): 7.88	Length of time Purged (min): 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1220	0.48	6.35	22.04	7.81	1.73	5.76	-32	8.69	
1225	0.96	6.36	20.72	7.90	1.80	1.48	.94	7.19	
1230	1.44	6.36	20.10	8.10	1.82	1.70	-145	5.94	
1235	1.92	6.38	19.74	8.30	1.90	4.25	-190	4.50	
1240	2.4	6.40	19.34	8.72	2.06	7.29	-226	5.36	
1245	2.88	6.40	16.78	8.75	2.22	7.29	-226	4.81	✓
1250	3.34	6.40	16.70	8.71	2.25	7.84	-228	4.14	✓
1255	3.8	—	16.67	8.85	2.26	3.57	-231	4.11	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C040-P2M008	1300	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			Fair: some visible cracks and/or not sloping
TPH-DRO		BTEX and naphthalene	Poor: heavily cracked
O&G			Unsured: pad has been buried by site activities
Total Cyanide		VOC, SVOC, TAL	Bolts in place
TCL SVOCs			Bolts are missing
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Well Casing Condition
TAL Metals and Mercury (dissolved)			Casing is free from damage and visibly marked with the Well ID ✓
Hexavalent Chromium		Specific Conductance	Well Condition
PCB			Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft
Matrix Spike Duplicate			Well is structurally sound: not bent, broken, and no blockage identified ✓
			Well is bent or broken but is able to be used ✓
			Well is broken and is not able to be used
			Well is blocked and is not able to be used
			Cap is present ✓
			Well permit is present ✓

Comments: _____

Sampled By:

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: PZM001 CO41-PZM001	Project Name: COA Low
Well Diameter (in): 2	Project Number: 21010210
Depth to Product (ft): —	Date: 5/10/22
Depth to Water (ft): 11.77	One Well Volume (gal): 0.69
Product Thickness (ft): —	Flow Rate (mL/min): 350
Depth to Bottom (ft): 16.00	Length of time Purged (min): 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1428	0.46	11.90	19.92	7.72	0.820	1.04	-168	2.10	
1433	0.92	11.91	19.90	7.62	0.815	1.82	-173	1.85	
1438	1.38	11.92	19.80	7.60	0.815	0.51	-193	1.30	
1443	1.84	11.92	19.81	7.50	0.808	0.64	-203	1.33	
1448	2.3	11.94	19.80	7.47	0.812	1.58	-209	1.95	
1453	2.76	11.95	19.83	7.52	0.806	4.55	-217	1.13	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
CO41 - PZM001		1458		Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
Sampling Parameters				Well Pad Condition	
				Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd	✓	Poor: heavily cracked	
TPH-GRO		BTEX and naphthalene		Unsured: pad has been buried by site activities	
TPH-DRO			Bolts in place		NA
O&G				Bolts are missing	
Total Cyanide		VOC, SVOC, TAL		Well Casing Condition	
TCL SVOCs		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (total)				Well Condition	
TAL Metals and Mercury (dissolved)				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x <u>1.63</u> gal/ft = _____ (gal)	
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified ✓	
PCB				Well is bent or broken but is able to be used	
Matrix Spike				Well is broken and is not able to be used	
Duplicate				Well is blocked and is not able to be used	
				Cap is present ✓	
				Well permit is present ✓	
Comments: Santplad) By <u>TSP</u> No Vent Cap					

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO41- PZM036	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): -	Date: 5-10-22
Depth to Water (ft): 12.64	One Well Volume (gal): 6.12
Product Thickness (ft): -	Flow Rate (mL/min): 320
Depth to Bottom (ft): 50.21	Length of time Purged (min): 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1334	0.48	12.84	20.29	11.13	2.10	10.09	-311	2.40	
1339	0.96	12.82	20.25	11.14	2.11	9.47	-314	2.01	
1344	1.44	12.82	20.34	11.14	2.11	7.60	-320	1.80	
1349	1.92	12.82	20.34	11.14	2.09	0.95	-253	2.41	
1354	2.4	12.82	20.35	10.11	2.08	0.63	-264	2.29	
1359	2.88	12.80	20.35	11.19	2.09	0.00	-322	1.40	
1404	3.36	12.80	20.50	11.19	2.09	0.00	-327	1.30	
1409	3.8	12.00	20.29	11.20	2.09	0.00	-329	1.19	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
CO41- PZM036		14:15		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition	
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO				Poor: heavily cracked	
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Unsure: pad has been buried by site activities	
O&G				Bolts in place	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Bolts are missing <input checked="" type="checkbox"/>	
TCL SVOCs				Well Casing Condition	
TAL Metals and Mercury (total)				Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)				Well Condition	
Hexavalent Chromium				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Matrix Spike				Well is bent or broken but is able to be used	
Duplicate				Well is broken and is not able to be used	
				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/>	
			Well permit is present <input checked="" type="checkbox"/>		

Comments:

Sampled By
[Signature]

No Next COP

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C042-P2M004	Project Name: COA GW
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): -	Date: 6/8/22
Depth to Water (ft): 7.65	One Well Volume (gal): 1,42
Product Thickness (ft): -	Flow Rate (mL/min): 300
Depth to Bottom (ft): 16.37	Length of time Purged (min): 50

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1443	0.4	8.25	19.7	8.76	1.073	0.36	-16.7	3.97	
1448	0.8	8.80	19.8	8.49	1.071	0.53	-142.7	1.01	
1453	1.2	9.09	19.6	8.38	1.068	0.35	-161.8	1.51	
1458	1.6	9.37	19.8	8.32	1.065	0.22	-180.2	0.76	
1503	2.0	9.60	19.5	8.30	1.052	0.20	-190.8	0.60	
1508	2.4	10.19	19.8	8.33	1.035	0.22	-215.7	0.63	
1513	2.8	10.41	19.3	8.27	1.098	0.24	-170.1	0.91	*Turn speed to
1518	3.2	10.60	19.6	8.23	1.107	0.25	-169.0	0.61	1/2 100ml
1523	3.6	10.88	19.1	8.17	1.108	0.26	-167.0	0.58	
1528	4.0		19.0	8.09	1.094	0.25	-157.7	1.08	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
C042-P2M004	1533	Well has been found and is accessible without hazards. If no, explain in the comments section. No							
		Well Pad Condition							
Sampling Parameters		Good: no visible cracks and is sloping							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO		BTEX and naphthalene	X	Unsure: pad has been buried by site activities					<input checked="" type="checkbox"/>
TPH-DRO				Bolts in place					
O&G		Bolts are missing							
Total Cyanide		VOC, SVOC, TAL		Well Casing Condition					
TCL SVOCs		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Casing is free from damage and visibly marked with the Well ID					<input checked="" type="checkbox"/>
TAL Metals and Mercury (total)		Well Condition							
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)							
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified					<input checked="" type="checkbox"/>		
PCB		Well is bent or broken but is able to be used							
Matrix Spike		Well is broken and is not able to be used							
Duplicate		Well is blocked and is not able to be used							
		Cap is present					<input checked="" type="checkbox"/>		
		Well permit is present					<input checked="" type="checkbox"/>		
Sampled By	Comments: Well is blocked by heavy brush & undergrowth * Well ID is faded								

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C055-P2M000</u>	Project Name: <u>COA 6W</u>
Well Diameter (in): <u>2"</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>—</u>	Date: <u>5/27/22</u>
Depth to Water (ft): <u>13.97</u>	One Well Volume (gal): <u>0.51</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min) <u>240 → 160</u>
Depth to Bottom (ft): <u>17.13</u>	Length of time Purged (min) <u>15</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L.) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
<u>1130</u>	<u>0.21</u>	<u>14.61</u>	<u>17.8</u>	<u>11.49</u>	<u>2.325</u>	<u>6.24</u>	<u>-53.6</u>	<u>71.7</u>	
<u>1135</u>	<u>0.42</u>	<u>15.92</u>	<u>17.8</u>	<u>11.47</u>	<u>2.308</u>	<u>5.53</u>	<u>-55.7</u>	<u>63.0</u>	
<u>1140</u>	<u>0.63</u>	<u>17.12</u>							<u>TOO DRY</u>
			<u>RAW</u>	<u>DRY</u>					

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
<u>C055-P2M000</u>		<u>1510</u>		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition	
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO		BTEX and naphthalene	<u>8</u>	Poor: heavily cracked	
TPH-DRO				Unsure: pad has been buried by site activities	
O&G				Bolts in place	
Total Cyanide				Bolts are missing	
TCL SVOCs		VOC, SVOC, TAL		Well Casing Condition	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)				Well Condition	
Hexavalent Chromium				Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Matrix Spike				Well is bent or broken but is able to be used	
Duplicate				Well is broken and is not able to be used	
Comments:				Well is blocked and is not able to be used	
Sampled By <u>TJP</u>				Cap is present <input checked="" type="checkbox"/>	
				Well permit is present <input checked="" type="checkbox"/>	
<u>No permit / vent cap / RAW DRY</u>					

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C056-P2P001
 Well Diameter (in): 2
 Depth to Product (ft): -
 Depth to Water (ft): 14.79
 Product Thickness (ft): -
 Depth to Bottom (ft): 19.19

Project Name: COA - 64
 Project Number: 20010210
 Date: 5/27/2
 One Well Volume (gal): 0.72
 Flow Rate (mL/min): 360
 Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1040	0.48	14.80	17.5	9.90	2.415	0.84	-39	2.3	
1045	0.96	14.80	16.5	10.85	2.446	0.78	-86.7	4.64	
1050	1.44	14.80	16.4	11.02	2.428	0.16	-112.1	1.95	
1055	1.92	14.80	16.5	11.09	2.426	0.13	-121.3	1.17	
1100	1.40	14.8	16.4	11.09	2.426	0.11	-124.6	1.54	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
<u>C056 - P2P001</u>		<u>5/27/05</u>		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition	
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Poor: heavily cracked	
TPH-DRO				Unsured: pad has been buried by site activities	
O&G		VOC, SVOC, TAL		Bolts in place	
Total Cyanide		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Bolts are missing <u>WA</u>	
TCL SVOCs				Well Casing Condition	
TAL Metals and Mercury (total)				Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)				Well Condition	
Hexavalent Chromium				Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Matrix Spike				Well is bent or broken but is able to be used	
Duplicate				Well is broken and is not able to be used	
				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/>	
				Well permit is present <input checked="" type="checkbox"/>	

Comments:

Sampled By

ASD

No Vent Cap/Permit

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C057-P2P002	Project Name: COA-JW
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): -	Date: 5/24/22
Depth to Water (ft): 15.19	One Well Volume (gal): 0.44
Product Thickness (ft): -	Flow Rate (mL/min): 160 → 120
Depth to Bottom (ft): 17.94	Length of time Purged (min): 3.5

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1228	0.21	15.48	17.6	12.00	2.756	4.48	-75.1	OR	
1232	0.42	15.60	17.4	11.99	2.404	4.10	-64.4	68.7	
1238	0.63	15.77	17.3	12.03	2.826	3.50	-61.3	25.9	
1243	0.85	15.85	17.2	12.07	2.907	3.70	-60.0	20.2	slowed flow to
1248	1.06	16.23	17.1	12.09	2.940	3.85	-58.9	8.35	120 mL/min
1253	1.24	16.38	16.9	12.12	2.967	2.59	-58.9	4.62	
1258	1.40	16.55	16.9	12.13	2.967	2.55	-57.5	4.49	

SAMPLE RECORD AND WELL DETAILS

Sample ID C057-P2P002		Time Collected 1300		Well Inspection	
				Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
				Well Pad Condition	
Sampling Parameters				Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Unsure: pad has been buried by site activities <input checked="" type="checkbox"/>	
TPH-DRO				Bolts in place	
O&G				Bolts are missing	
Total Cyanide		VOC, SVOC, TAL		Well Casing Condition	
TCL SVOCs		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)				Well Condition	
TAL Metals and Mercury (dissolved)				Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft	
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
PCB				Well is bent or broken but is able to be used	
Matrix Spike				Well is broken and is not able to be used	
Duplicate				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/>	
				Well permit is present <input checked="" type="checkbox"/>	

Sampled By: **TJA** Comments: **No Vert CAP, or Permit**

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO 57-P2P 002</u>	Project Name: <u>COA GW</u>
Well Diameter (in): <u>2"</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>—</u>	Date: <u>6/23/22</u>
Depth to Water (ft): <u>15.69</u>	One Well Volume (gal): <u>0.36</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min) <u>200 → 120 → 200</u>
Depth to Bottom (ft): <u>17.90</u>	Length of time Purged (min) <u>15</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1347	0.26	16.60	19.4	11.99	2.648	4.12	-82.0	15.0	D.6P Flow
1352	0.42	17.15	20.3	11.99	2.602	3.72	-77.3	10.4	10 120
1357	0.58	17.44	20.5	12.07	2.612	3.76	-78.6	6.69	
1402	—	17.80	—	—	—	—	—	—	RAN Dry

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>CO 57 - P2P 002</u>	<u>1520</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	<u>8</u>
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride,	
PCB		Turbidity, TDS,	
Matrix Spike		Specific Conductance	
Duplicate			
Sampled By: <u>FJP</u>		Well RAN Dry, will sample after Allow. Recharge	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C058 - PZM 001</u>	Project Name: <u>COA</u>
Well Diameter (in): <u>2</u>	Project Number: <u>20810210</u>
Depth to Product (ft): <u>2</u>	Date: <u>5/2/22</u>
Depth to Water (ft): <u>12.95</u>	One Well Volume (gal): <u>1.03</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min): <u>280 280</u>
Depth to Bottom (ft): <u>19.25</u>	Length of time Purged (min): <u>35</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1523	0.37	13.20	26.14	8.12	0.582	1.09	-110	16.1	
1528	0.74	13.20	23.38	8.22	0.595	0.66	-120	11.9	
1533	1.11	13.30	21.25	8.18	0.586	0.0	-114	9.13	
1538	1.48	13.48	20.72	8.10	0.576	0	-107	7.48	
1543	1.75	13.55	19.97	7.81	0.573	0	-82	7.03	Horbe SLT off
1548	2.22	13.57	20.51	7.73	0.571	0	-82	7.24	
1553	2.59	13.60	20.57	7.75	0.574	0	-85	7.27	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C058 - PZM 001</u>	<u>1555</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
		Well Pad Condition <input checked="" type="checkbox"/>	
Sampling Parameters		Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
Parameter Collected?	Parameter Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs	Dissolved Zn and Cd	Poor: heavily cracked	
TPH-GRO		Unsure: pad has been buried by site activities	
TPH-DRO	BTEX and naphthalene	Bolts in place	NA
O&G		Bolts are missing	
Total Cyanide	VOC,	Well Casing Condition	
TCL SVOCs	SVOC, TAL	Casing is free from damage and visibly marked with the Well ID	
TAL Metals and Mercury (total)	Metals and mercury, Sulfate, Nitrate,	Well Condition	
TAL Metals and Mercury (dissolved)	Ammonia, COD,	Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
Hexavalent Chromium	Chloride, Turbidity,	_____ ft x _____ gal/ft = _____ (gal)	
PCB	TDS,	Well is structurally sound: not bent, broken, and no blockage identified	
Matrix Spike	Specific Conductance	Well is bent or broken but is able to be used <input checked="" type="checkbox"/>	
Duplicate		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	
Sampled By: <u>ASR</u>	Comments: <u>No Vent Cap</u>		

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C059-P2P002	Project Name: COA GW
Well Diameter (in): 2	Project Number: 20070210
Depth to Product (ft): -	Date: 5/23/22
Depth to Water (ft): 15.45	One Well Volume (gal): 0.55
Product Thickness (ft): -	Flow Rate (mL/min): 140
Depth to Bottom (ft): 18.80	Length of time Purged (min): 35

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
12.13	0.18	15.48	17.9	8.41	2.903	9.54	77.1	16.9	
12.18	0.37	15.50	18.9	8.83	2.731	8.69	107.1	9.98	
12.23	0.55	15.51	18.4	8.66	2.425	8.96	106.9	3.80	
12.28	0.74	15.51	18.1	8.50	2.421	8.55	108.9	4.89	
12.33	0.92	15.50	18.2	8.43	2.417	9.64	109.8	2.91	DO 15 Jumps
12.38	1.11	15.50	18.3	8.38	2.410	7.79	108.1	4.96	7
12.43	1.29	15.50	18.3	8.38	2.391	7.96	103.9	3.78	7 ✓

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
C059 P2P002		1248		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition	
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO				Poor: heavily cracked	
TPH-DRO		BTEX and naphthalene	X	Unsured: pad has been buried by site activities <input checked="" type="checkbox"/>	
O&G				Bolts in place	
Total Cyanide				Bolts are missing <input checked="" type="checkbox"/>	
TCL SVOCs		VOC, SVOC, TAL		Well Casing Condition	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)				Well Condition	
Hexavalent Chromium				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Matrix Spike				Well is bent or broken but is able to be used	
Duplicate				Well is broken and is not able to be used	
				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/>	
				Well permit is present	
Sampled By	Comments: <input checked="" type="checkbox"/> Well is in a collar <input checked="" type="checkbox"/> Equipment must be transported by hand through mud & rocks. <input checked="" type="checkbox"/> No well ID marked				

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO60-PZP002

Project Name: COA

Well Diameter (in): 2

Project Number: 20010210

Depth to Product (ft):

Date: 5/12/22

Depth to Water (ft): 14.57

One Well Volume (gal): 0.17

Product Thickness (ft):

Flow Rate (mL/min) 160

Depth to Bottom (ft): 15.60

Length of time Purged (min) 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1440	0.21	14.57	21.31	7.23	2.08	0	272	6.86	
1445	0.42	14.54	21.39	6.42	1.97	0	225	6.55	
1450	0.63	14.54	21.93	7.67	1.96	0	281	10.3	
1455	0.84	14.54	22.90	7.96	1.93	0	285	12.4	
1500	1.05	14.54	22.56	7.93	1.95	0	289	12.3	
1505	1.26	14.54	22.36	7.98	1.95	0	296	12.8	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
<u>CO60 PZP002</u>		<u>1510</u>		Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
Sampling Parameters				Well Pad Condition	
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping ✓	
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO		BTEX and naphthalene	✓	Poor: heavily cracked	
TPH-DRO				Unsured: pad has been buried by site activities	
O&G				Bolts in place	
Total Cyanide				Bolts are missing N/A	
TCL SVOCs		VOC, SVOC, TAL		Well Casing Condition	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (dissolved)				Well Condition	
Hexavalent Chromium				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
PCB				_____ ft x <u>.165</u> gal/ft = _____ (gal)	
Matrix Spike				Well is structurally sound: not bent, broken, and no blockage identified ✓	
Duplicate				Well is bent or broken but is able to be used	
				Well is broken and is not able to be used	
				Well is blocked and is not able to be used	
				Cap is present	
				Well permit is present ✓	

Comments:

Sampled By: [Signature]

No Vent Cap

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C093-MWS	Project Name: COA GW
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): -	Date: 6/9/22
Depth to Water (ft): 10.24	One Well Volume (gal): 1.50
Product Thickness (ft): -	Flow Rate (mL/min): 290
Depth to Bottom (ft): 19.50	Length of time Purged (min): 55

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1345	0.32	10.95	18.8	8.14	0.679	0.57	-292.5	7.55	
1350	0.63	11.01	19.0	8.47	0.789	0.62	-357.8	12.6	
1355	0.95	11.04	19.1	10.87	1.256	0.69	-417.3	11.4	
1400	1.27	11.04	19.1	11.23	1.383	1.01	-416.2	7.09	
1405	1.59	11.04	19.2	11.26	1.468	1.09	-420.9	6.19	
1410	1.90	11.04	19.2	11.34	1.493	1.08	-419.7	6.34	↗
1415	2.22	11.04	19.2	11.43	1.503	1.04	-425.6	6.02	↘

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C093-MWS	1420	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	X
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride,	
PCB		Turbidity, TDS,	
Matrix Spike		Specific Conductance	
Duplicate			
Sampled By: TJP		Well Casing Condition	
Comments:		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
		Well Condition	
		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present (NO VENT CAP) <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO180-MWS	Project Name: COA GW
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): -	Date: 5/26/22
Depth to Water (ft): 11.21	One Well Volume (gal): 1.06
Product Thickness (ft): -	Flow Rate (mL/min): 200 260
Depth to Bottom (ft): 17.70	Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1026	0.34	11.24	16.0	11.89	3.433	0.21	-219.8	7.00	
1031	0.68	11.26	16.0	11.89	3.461	0.13	-208.7	3.84	
1036	1.02	11.26	16.0	11.90	3.465	0.12	-231.0	1.73	
1041	1.36	11.26	15.9	11.91	3.453	0.12	-232.1	1.95	✓
1046	1.70	11.26	16.0	11.91	3.447	0.10	-233.5	1.83	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
CO180-MWS	1050	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓							
		Well Pad Condition							
Sampling Parameters		Good: no visible cracks and is sloping							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO		BTEX and naphthalene	✓	Unsure: pad has been buried by site activities					
TPH-DRO				Bolts in place					
O&G		Bolts are missing						MA	
Total Cyanide		Well Casing Condition							
TCL SVOCs		VOC, SVOC, TAL		Casing is free from damage and visibly marked with the Well ID					✓
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Well Condition					
TAL Metals and Mercury (dissolved)		Ammonia, COD,		Casing Volume 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft					
Hexavalent Chromium		Alkalinity, Chloride,		_____ ft x _____ gal/ft = _____ (gal)					
PCB		Turbidity, TDS,		Well is structurally sound: not bent, broken, and no blockage identified					✓
Matrix Spike		Specific Conductance		Well is bent or broken but is able to be used					
Duplicate				Well is broken and is not able to be used					
				Well is blocked and is not able to be used					
				Cap is present					✓
				Well permit is present (VEN)					✓
Sampled By		Comments:							
AJB									

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO 180-MWS	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): ~	Date: 6/22/22
Depth to Water (ft): 11.35	One Well Volume (gal): 103
Product Thickness (ft): -	Flow Rate (mL/min): 300
Depth to Bottom (ft): 17.69	Length of time Purged (min): 20

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1245	0.40	11.35	17.6	11.92	3.780	0.09	-238.6	4.64	
1250	0.79	11.35	17.7	11.93	3.781	0.07	-2430	3.83	
1255	1.19	11.35	17.6	11.94	3.787	0.07	-2450	3.42	7
1300	1.59	11.35	17.8	11.96	3.788	0.06	-245.9	2.91	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO 180-MWS	1305	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	✗
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride,	
PCB		Turbidity,	
Matrix Spike		TDS,	
Duplicate		Specific Conductance	
Sampled By: TJP		Well Casing Condition	
Comments:		Casing is free from damage and visibly marked with the Well ID ✓	
		Well Condition	
		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified ✓	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present ✓	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO180-MWT</u>	Project Name: <u>COA 6W</u>
Well Diameter (in): <u>2</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>—</u>	Date: <u>5/26/21</u>
Depth to Water (ft): <u>11.01</u>	One Well Volume (gal): <u>6.80</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min): <u>360</u>
Depth to Bottom (ft): <u>52.75</u>	Length of time Purged (min): <u>30</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0940	0.48	11.02	17.0	11.08	2.068	1.33	-148.9	1.82	
0945	0.96	11.02	16.9	11.61	3.066	0.26	-215.8	1.35	
0950	1.44	11.07	16.9	11.89	3.983	0.14	-253.8	1.27	
0955	1.92	11.05	16.8	11.95	4.153	0.11	-211.2	1.21	7
1000	2.4	11.06	16.7	11.98	4.187	0.09	-263.7	0.91	
1005	2.88	11.06	16.7	11.99	4.199	0.08	-266.1	0.72	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
<u>CO180-MWT</u>		<u>1010</u>		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters		Well Pad Condition		Well Casing Condition	
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Poor: heavily cracked	
TPH-DRO				Unsured: pad has been buried by site activities	
O&G				Bolts in place <input checked="" type="checkbox"/>	
Total Cyanide				Bolts are missing <input checked="" type="checkbox"/>	
TCL SVOCs		VOC, SVOC, TAL		Well Casing Condition	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)				Well Condition	
Hexavalent Chromium				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Matrix Spike				Well is bent or broken but is able to be used	
Duplicate				Well is broken and is not able to be used	
Sampled By: <u>JSP</u>		Comments:		Well is blocked and is not able to be used	
				Cap is present <u>(vent)</u> <input checked="" type="checkbox"/>	
				Well permit is present <input checked="" type="checkbox"/>	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO 180 - MWI	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): ~	Date: 6/22/22
Depth to Water (ft): 11.33	One Well Volume (gal): 6.75
Product Thickness (ft): ~	Flow Rate (mL/min): 320
Depth to Bottom (ft): 52.75	Length of time Purged (min): 25 (+10)

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1209	0.42	11.33	17.6	11.78	3.563	0.19	244.9	3.82	
1214	0.85	11.33	17.5	11.94	4.004	0.19	261.5	4.40	
1219	1.27	11.33	17.3	11.98	4.171	0.11	263.0	2.93	
1224	1.69	11.33	17.4	12.02	4.221	0.10	266.1	3.24	
1229	2.11	11.33	17.5	12.05	4.246	0.10	267.0	2.64	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection		
CO 180 - MWI	1234	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓		
		Well Pad Condition		
Sampling Parameters		Good: no visible cracks and is sloping ✓		
Parameter	Collected?	Parameter	Collected?	
TCL-VOCs		Dissolved Zn and Cd		
TPH-GRO			Poor: heavily cracked	
TPH-DRO		BTEX and naphthalene ✓	Unsure: pad has been buried by site activities	
O&G			Bolts in place	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Bolts are missing	
TCL SVOCs			Well Casing Condition	
TAL Metals and Mercury (total)			Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (dissolved)			Well Condition	
Hexavalent Chromium			Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB			Well is structurally sound: not bent, broken, and no blockage identified ✓	
Matrix Spike			Well is bent or broken but is able to be used	
Duplicate			Well is broken and is not able to be used	
			Well is blocked and is not able to be used	
			Cap is present ✓	
		Well permit is present ✓		

Comments: **Sampled By: [Signature] HAD to restart, ysz battery dead**

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO 181-MW5</u>	Project Name: <u>COA-6W</u>
Well Diameter (in): <u>2</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>-</u>	Date: <u>5/26/22</u>
Depth to Water (ft): <u>11.97</u>	One Well Volume (gal): <u>0.94</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min): <u>320</u>
Depth to Bottom (ft): <u>17.72</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1205	0.42	12.00	16.3	11.81	2.141	0.16	-192.1	2.97	
1210	0.85	12.00	16.4	11.85	2.183	0.11	-210.0	2.23	
1215	1.27	12.00	16.5	11.86	2.201	0.09	-216.9	1.86	?
1220	1.69	12.00	16.5	11.87	2.206	0.09	-219.9	1.49	?
1225	2.11	12.00	16.4	11.89	2.222	0.09	-225.5	1.80	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>CO 181-MW5</u>	<u>1230</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	✓
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride, Turbidity,	
PCB		TDS,	
Matrix Spike		Specific	
Duplicate		Conductance	
Sampled By: <u>FSP</u>		Well Casing Condition	
Comments:		Casing is free from damage and visibly marked with the Well ID ✓	
		Well Condition	
		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified ✓	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present <u>(Vent)</u> ✓	
		Well permit is present ✓	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO 181-MWS	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): —	Date: 6/22/22
Depth to Water (ft): 12.01	One Well Volume (gal): 0.92
Product Thickness (ft): —	Flow Rate (mL/min): 300
Depth to Bottom (ft): 17.70	Length of time Purged (min): 20

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1425	0.4	12.07	19.3	11.79	2.394	0.06	-227.9	2.78	
1430	0.79	12.01	19.1	11.80	2.419	0.07	-231.8	2.02	✓
1435	1.19	12.01	19.2	11.80	2.409	0.09	-234.4	1.89	
1440	1.59	12.01	19.1	11.83	2.413	0.07	-237.7	1.78	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
CO 181-MWS	1445	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓							
		Well Pad Condition ✓							
Sampling Parameters				Good: no visible cracks and is sloping ✓					
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO			BTEX and naphthalene		Unsure: pad has been buried by site activities				
TPH-DRO		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		✓	Bolts in place				
O&G			Bolts are missing						
Total Cyanide		Well Casing Condition							
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID ✓							
TAL Metals and Mercury (total)		Well Condition							
TAL Metals and Mercury (dissolved)		Casing Volume 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)							
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified ✓							
PCB		Well is bent or broken but is able to be used							
Matrix Spike		Well is broken and is not able to be used							
Duplicate		Well is blocked and is not able to be used							
		Cap is present ✓							
		Well permit is present ✓							

Sampled By: **TJP** Comments: _____

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO181-MWF	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): -	Date: 5/26/22
Depth to Water (ft): 11.83	One Well Volume (gal): 686
Product Thickness (ft): -	Flow Rate (mL/min): 360
Depth to Bottom (ft): 53.92	Length of time Purged (min): 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (su) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1123	0.48	11.85	17.2	11.04	1.192	0.14	176.4	5.20	
1128	0.96	11.85	17.2	11.65	1.919	0.12	227.9	5.32	
1133	1.44	11.85	17.2	11.90	2.446	0.10	251.4	3.29	
1138	1.92	11.86	17.2	11.94	2.483	0.09	255.9	2.05	
1143	2.4	11.86	17.2	11.96	2.496	0.08	258.2	1.64	
1148	2.88	11.86	17.2	11.96	2.473	0.08	258.1	2.71	3✓

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
CO181-MWI		1150		Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
Sampling Parameters				Well Pad Condition	
Good: no visible cracks and is sloping ✓					
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO				Unsure: pad has been buried by site activities	
TPH-DRO		BTEX and naphthalene	✓	Bolts in place	
O&G				Bolts are missing MA	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Casing Condition	
TCL SVOCs				Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (total)				Well Condition	
TAL Metals and Mercury (dissolved)				Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified ✓	
PCB				Well is bent or broken but is able to be used	
Matrix Spike Duplicate			Well is broken and is not able to be used		
			Well is blocked and is not able to be used		
			Cap is present (Vent) ✓		
			Well permit is present		

Comments:

Sampled By

JSP

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO 181-MWI	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): -	Date: 6/22/22
Depth to Water (ft): 11.94	One Well Volume (gal): 6.8
Product Thickness (ft): -	Flow Rate (mL/min): 300
Depth to Bottom (ft): 53.60	Length of time Purged (min): 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1336	0.40	11.94	19.4	10.41	1.031	0.10	-126.2	4.55	
1341	0.79	11.94	19.9	11.44	1.654	0.05	-220.9	3.76	
1346	1.19	11.94	19.6	11.71	2.111	0.05	-246.9	3.81	
1351	1.59	11.94	19.7	11.78	2.236	0.05	-249.8	3.00	
1356	1.98	11.94	19.8	11.85	2.455	0.04	-250.7	2.69	
1401	2.38	11.94	19.7	11.91	2.702	0.05	-253.7	3.71	
1406	2.77	11.94	19.8	11.92	2.677	0.05	-256.6	2.44	✓
1411	3.17	11.94	19.9	11.97	2.680	0.06	-255.5	2.08	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO 181-MWI	1415	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	✓
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride,	
PCB		Turbidity,	
Matrix Spike		TDS,	
Duplicate		Specific Conductance	

Well has been found and is accessible without hazards. If no, explain in the comments section. ✓

Well Pad Condition

Good: no visible cracks and is sloping ✓
Fair: some visible cracks and/or not sloping
Poor: heavily cracked
Unsure: pad has been buried by site activities
Bolts in place
Bolts are missing

Well Casing Condition

Casing is free from damage and visibly marked with the Well ID ✓

Well Condition

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
 _____ ft x _____ gal/ft = _____ (gal)

Well is structurally sound: not bent, broken, and no blockage identified ✓
Well is bent or broken but is able to be used
Well is broken and is not able to be used
Well is blocked and is not able to be used
Cap is present ✓
Well permit is present ✓

Comments: ✓

Sampled By: **TJA**

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO182-MWI</u>	Project Name: <u>COA 164</u>
Well Diameter (in):	Project Number: <u>20010210</u>
Depth to Product (ft):	Date: <u>5/10/22</u>
Depth to Water (ft): <u>6.68</u>	One Well Volume (gal): <u>7.6</u>
Product Thickness (ft):	Flow Rate (mL/min): <u>300</u>
Depth to Bottom (ft): <u>53.55</u>	Length of time Purged (min): <u>40</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1035 1035	0.4	7.77	17.38	12.01	1.22	0.00	-304	2.78	
1040	0.8	7.78	17.42	11.28	1.18	0.00	-268	2.61	
1045	1.2	7.77	17.36	11.29	1.17	0.00	-271	3.61	
1050	1.6	7.77	17.40	8.52	0.963	0	-195	11.25	?
1055	2.0	7.76	17.67	8.67	0.987	0	-258	2.90	
1100	2.4	7.76	18.11	8.41	0.975	0	-245	3.95	7
1105	2.8	7.76	18.22	8.44	0.972	0	-249	4.49	7
1110	3.2	7.76	18.51	8.39	0.969	0	-253	3.54	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
	<u>1115</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsured: pad has been buried by site activities	
O&G		Bolts in place	
Total Cyanide		Bolts are missing	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft	
PCB		_____ ft x <u>160</u> gal/ft = _____ (gal)	
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Duplicate		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present <u>(vent)</u> <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	

Comments:

Sampled By

[Signature]

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO 186-MWS	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): -	Date: 6/8/26
Depth to Water (ft): 10.57	One Well Volume (gal): 207
Product Thickness (ft): -	Flow Rate (mL/min): 320
Depth to Bottom (ft): 23.33	Length of time Purged (min): 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1025	0.42	10.59	17.7	8.54	0.980	0.09	-259.9	10.6	
1030	0.85	10.60	17.8	8.38	0.989	0.05	-272.6	10.5	
1035	1.27	10.60	17.8	8.22	1.001	0.02	-291.9	9.31	
1040	1.69	10.60	18.0	8.09	1.017	0.03	-310.6	4.90	7
1045	2.11	10.60	17.9	8.00	1.016	0.04	-312.6	4.16	7
1050	2.54	10.60	18.1	8.07	1.015	0.06	315.1	3.90	7 ✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
CO 186-MWS	1055	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓							
		Well Pad Condition							
Sampling Parameters		Good: no visible cracks and is sloping ✓							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO			Unsure: pad has been buried by site activities						
TPH-DRO		BTEX and naphthalene	✗	Bolts in place					
O&G				Bolts are missing					
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Casing Condition					
TCL SVOCs			Casing is free from damage and visibly marked with the Well ID ✓						
TAL Metals and Mercury (total)			Well Condition						
TAL Metals and Mercury (dissolved)			Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)						
Hexavalent Chromium			Well is structurally sound: not bent, broken, and no blockage identified ✓						
PCB			Well is bent or broken but is able to be used						
Matrix Spike			Well is broken and is not able to be used						
Duplicate			Well is blocked and is not able to be used						
			Cap is present (vent) ✓						
			Well permit is present ✓						

Sampled By: **TSP** Comments: **DARK stringy particles observed At start of Purge - cleared After 10:25 AM**

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO190 - MWS	Project Name: COA GW
Well Diameter (in): 2'	Project Number: 20010210
Depth to Product (ft):	Date: 6/9/22
Depth to Water (ft): 13.94	One Well Volume (gal): 286.61
Product Thickness (ft):	Flow Rate (mL/min): 286
Depth to Bottom (ft): 23.80	Length of time Purged (min): 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1055	0.37	14.15	23.5	6.70	2.983	2.16	-14.3	54.0	
1100	0.74	14.15	22.5	6.69	2.675	3.78	-43.1	41.8	
1105	1.11	14.15	23.1	6.76	2.502	4.19	-55.4	37.7	
1110	1.48	14.17	22.6	6.79	2.343	5.20	-63.9	38.2	
1115	1.85	14.20	22.5	6.87	2.105	4.90	-70.7	28.8	
1120	2.22	14.21	22.4	6.90	2.030	5.20	-71.2	25.5	
1125	2.59	14.22	22.1	6.92	1.998	5.19	-72.5	25.8	
1130	2.96	14.22	22.3	6.91	1.965	5.24	-76.0	25.3	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO190 - MWS	1135	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	8
O&G			
Total Cyanide		VOC, SVOC, TAL	
TCL SVOCs		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	
TAL Metals and Mercury (total)			
TAL Metals and Mercury (dissolved)			
Hexavalent Chromium			
PCB			
Matrix Spike			
Duplicate			
Sampled By: TJP		Well Casing Condition	
Comments: ① Rusty casing, well ID faded		Casing is free from damage and visibly marked with the Well ID ②	
		Well Condition	
		Casing Volume 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft ft x gal/ft = (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present vented <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO 191-MW3</u>	Project Name: COA GW
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>6/9/22</u>
Depth to Water (ft): <u>12.30</u>	One Well Volume (gal): <u>1.67</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min): <u>360</u>
Depth to Bottom (ft): <u>22.57</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1450	0.48	17.71	18.7	11.15	1.062	0.37	322.5	5.27	
1455	0.95	12.71	18.7	11.22	1.061	0.37	330.6	2.63	
1500	1.43	12.31	18.7	11.23	1.061	0.39	340.6	2.44	
1505	1.90	12.31	18.8	11.21	1.061	0.47	331.6	1.61	
1510 1510	2.38	—	18.6	11.32	1.061	0.45	333.8	1.23	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
<u>CO 191-MW3</u>		<u>15</u>		Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
				Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping		•	
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO		BTEX and naphthalene	✓	Unsure: pad has been buried by site activities ✓	
TPH-DRO				Bolts in place	
O&G				Bolts are missing	
Total Cyanide		VOC, SVOC, TAL		Well Casing Condition	
TCL SVOCs		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (total)				Well Condition	
TAL Metals and Mercury (dissolved)				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified ✓	
PCB				Well is bent or broken but is able to be used	
Matrix Spike				Well is broken and is not able to be used	
Duplicate				Well is blocked and is not able to be used	
				Cap is present (Vena) ✓	
				Well permit is present ✓	

Sampled By: [Signature] Comments: _____

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO192-MWS	Project Name: COA GW
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): ---	Date: 6/9/22
Depth to Water (ft): 13.16	One Well Volume (gal): 1.56
Product Thickness (ft): ---	Flow Rate (mL/min): 280
Depth to Bottom (ft): 23.01	Length of time Purged (min): 75

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1240	0.57	13.17	18.9	7.29	1.292	0.40	-252.9	4.08	
1245	0.74	13.17	19.3	7.23	1.272	0.10	-271.9	2.53	
1250	1.11	13.17	19.2	7.27	1.263	0.16	-285.8	4.64	7
1255	1.48	13.17	19.3	7.23	1.261	0.20	-289.9	3.12	7
1300	1.85	13.17	19.2	7.20	1.261	0.29	-295.9	2.89	7

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
CO192-MWS		1306		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition	
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO				Poor: heavily cracked	
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Unsured: pad has been buried by site activities	
O&G				Bolts in place <input checked="" type="checkbox"/>	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Bolts are missing <input checked="" type="checkbox"/>	
TCL SVOCs				Well Casing Condition	
TAL Metals and Mercury (total)				Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)				Well Condition	
Hexavalent Chromium				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
PCB				_____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike Duplicate				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
				Well is bent or broken but is able to be used	
			Well is broken and is not able to be used		
			Well is blocked and is not able to be used		
			Cap is present <input checked="" type="checkbox"/>		
			Well permit is present <input checked="" type="checkbox"/>		

Sampled By: **[Signature]** Comments: **DB Served BLACK substance, in purge water soft stringy material, flowed through lines.**

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO194-MWS	Project Name: COA
Well Diameter (in): 2	Project Number: 2001026
Depth to Product (ft): None	Date: 9/12/22
Depth to Water (ft): 12.86	One Well Volume (gal): 1.88
Product Thickness (ft): —	Flow Rate (mL/min): 300
Depth to Bottom (ft): 24.46	Length of time Purged (min): 45

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0955	0.4	12.88	18.39	10.69	9.89	4.08	-232	0.74	
1000	0.8	12.88	17.79	10.88	9.90	4.37	-241	1.72	
1005	1.2	12.89	17.74	10.82	9.87	12.36	-251	1.16	
1010	1.6	12.89	17.83	10.72	9.78	7.89	-248	0.78	
1015	2.0	12.90	17.95	10.88	9.85	3.24	-256	0.96	
1020	2.4	12.90	17.93	10.95	9.83	6.57	-249	1.07	
1025	2.8	12.90	18.25	10.88	9.80	7.24	-247	0.85	7
1030	3.2	12.90	18.37	10.88	9.80	7.85	-244	1.08	7
1035	3.6	12.90	18.54	10.90	9.86	23.91	-242	1.35	7

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO194-MWS	1040	Well has been found and is accessible without hazards. If no, explain in the comments section.	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	✓
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride, Turbidity,	
PCB		TDS,	
Matrix Spike		Specific	
Duplicate		Conductance	
Sampled By: HJO		Well Casing Condition	
Comments: using pH Pen for all, Confined / vent cap installed		Casing is free from damage and visibly marked with the Well ID	
		Well Condition	
		Casing Volume. 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
		_____ ft x 1.63 gal/ft = _____ (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present	
		Well permit is present	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C0195-MVS	Project Name: COA
Well Diameter (in): 2	Project Number: 20610210
Depth to Product (ft): -	Date: 5/12/22
Depth to Water (ft): 13.06	One Well Volume (gal): 4.13
Product Thickness (ft): -	Flow Rate (ml/min): 200
Depth to Bottom (ft): 59.40	Length of time Purged (min): 35

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1023	0.4	13.07	20.49	9.42	0.424	0.00	-57	5.47	
1028	0.8	13.07	20.38	9.25	0.401	0.0	-50	4.71	
1033	1.2	13.07	20.31	10.13	0.757	0.0	-137	3.99	
1038	1.6	13.07	20.32	10.11	1.52	0	-174	4.44	
1043	2.0	13.07	20.25	10.31	1.78	0	-182	4.07	
1048	2.4	13.07	20.22	10.39	1.80	0	-192	3.87	
1053	2.8	13.07	20.23	10.37	1.81	0	-193	2.83	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C0195-MVS	1055	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	Fair: some visible cracks and/or not sloping
TPH-GRO			Poor: heavily cracked
TPH-DRO		BTEX and naphthalene	Unsured: pad has been buried by site activities
O&G			Bolts in place <input checked="" type="checkbox"/>
Total Cyanide		VOC, SVOC, TAL	Bolts are missing <input checked="" type="checkbox"/>
TCL SVOCs			Well Casing Condition
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>
TAL Metals and Mercury (dissolved)			Well Condition
Hexavalent Chromium		PCB	Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
PCB			_____ ft x 165 gal/ft = _____ (gal)
Matrix Spike		Duplicate	Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>
Duplicate			Well is bent or broken but is able to be used
			Well is broken and is not able to be used
			Well is blocked and is not able to be used
			Cap is present <input checked="" type="checkbox"/>
			Well permit is present <input checked="" type="checkbox"/>

Comments: **No Vent Cap**

Sampled By: **TJP**

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO195-MWS	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): -	Date: 6/8/22
Depth to Water (ft): 13.32	One Well Volume (gal): 4.09
Product Thickness (ft): -	Flow Rate (mL/min): 280
Depth to Bottom (ft): 38.39	Length of time Purged (min): 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0844	0.37	13.33	20.1	10.10	0.467	0.26	-21.7	16.2	
0849	0.74	13.32	19.8	10.19	0.486	0.09	-57.4	13.8	
0854	1.11	13.32	19.8	10.43	0.512	0.06	-90.6	11.0	
0859	1.48	13.32	19.9	10.94	0.852	0.03	-165.7	9.6	
0904	1.85	13.32	19.9	11.59	2.380	0.03	-247.3	3.19	
0909	2.22	13.32	20.0	11.78	2.420	0.07	-252.8	3.37	7
0914	2.59	13.32	20.1	11.82	2.467	0.03	-259.5	2.73	
0919	2.96	13.32	20.0	11.85	2.478	0.04	-263.8	2.52	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
CO195-MWS	0924	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓							
		Well Pad Condition							
Sampling Parameters				Good: no visible cracks and is sloping ✓					
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO		BTEX and naphthalene	X	Unsure: pad has been buried by site activities					
TPH-DRO				Bolts in place					
O&G		Bolts are missing							
Total Cyanide		Well Casing Condition							
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID ✓							
TAL Metals and Mercury (total)		Well Condition							
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)							
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified ✓							
PCB		Well is bent or broken but is able to be used							
Matrix Spike Duplicate		Well is broken and is not able to be used							
		Well is blocked and is not able to be used							
		Cap is present not vented ✓							
		Well permit is present							

Comments:

Sampled By
738

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C0196-MWS</u>	Project Name: <u>COA</u>
Well Diameter (in): <u>2</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>-</u>	Date: <u>5/12/21</u>
Depth to Water (ft): <u>12.38</u>	One Well Volume (gal): <u>3.02</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min): <u>240</u>
Depth to Bottom (ft): <u>30.90</u>	Length of time Purged (min): <u>-</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1350	0.32	12.39	24.27	12.06	2.80	0.36	-268	2.92	
1355	0.64	12.39	23.18	10.94	2.86	0.0	-214	3.55	
1400	0.98	12.38	22.80	10.77	2.87	0	-214	2.57	
1405	1.30	12.38	22.61	10.72	2.88	0	-215	1.63	
1410	1.62	12.38	22.01	10.74	2.91	0	-210	3.00	

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
<u>C0196-MWS</u>		<u>1415</u>		Well has been found and is accessible without hazards. If no, explain in the comments section.	
Sampling Parameters				Well Pad Condition	
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Poor: heavily cracked	
TPH-DRO				Unsured: pad has been buried by site activities	
O&G		VOC, SVOC, TAL	<input checked="" type="checkbox"/>	Bolts in place	
Total Cyanide				Bolts are missing	
TCL SVOCs		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	<input checked="" type="checkbox"/>	Well Casing Condition	
TAL Metals and Mercury (total)				Casing is free from damage and visibly marked with the Well ID	
TAL Metals and Mercury (dissolved)		Hexavalent Chromium	<input checked="" type="checkbox"/>	Well Condition	
Hexavalent Chromium				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
PCB		Matrix Spike Duplicate	<input checked="" type="checkbox"/>	Well is structurally sound: not bent, broken, and no blockage identified	
Matrix Spike				Well is bent or broken but is able to be used	
Duplicate				Well is broken and is not able to be used	
				Well is blocked and is not able to be used	
				Cap is present	
				Well permit is present	
Sampled By	Comments: <u>Checked pH w/ pH pen meter. No MWS CAP</u>				

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO198-MWS	Project Name: COA
Well Diameter (in): 7	Project Number: 20010210
Depth to Product (ft):	Date: 5/11/22
Depth to Water (ft): 13.09	One Well Volume (gal): 4.07
Product Thickness (ft):	Flow Rate (mL/min): 300
Depth to Bottom (ft): 38.10	Length of time Purged (min): 33

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1412	0.40	13.10	18.89	7.91	9.25	4.61	-222	8.70	
1417	0.8	13.10	18.92	8.33	9.19	0.77	-251	8.66	
1422	1.2	13.10	19.02	8.04	9.45	0.90	-232	1.47	
1427	1.6	13.10	19.13	8.10	10.3	0.00	-251	1.91	
1432	2.0	13.10	19.15	8.14	10.9	0.98	-258	1.30	
1438	2.4	13.10	18.80	8.19	10.3	2.28	-255	1.98	
1442	2.8	13.10	18.77	8.18	11.2	4.47	-255	1.03	

SAMPLE RECORD AND WELL DETAILS

Sample ID: CO198-MWS		Time Collected: 1445		Well Inspection	
				Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
				Well Pad Condition	
Sampling Parameters				Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd	<input checked="" type="checkbox"/>	Poor: heavily cracked	
TPH-GRO				Unsure: pad has been buried by site activities	
TPH-DRO		BTEX and naphthalene		Bolts in place	
O&G				Bolts are missing	
Total Cyanide		VOC, SVOC, TAL		Well Casing Condition	
TCL SVOCs				Casing is free from damage and visibly marked with the Well ID	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Condition	
TAL Metals and Mercury (dissolved)				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x <u>1.63</u> gal/ft = _____ (gal)	
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
PCB				Well is bent or broken but is able to be used	
Matrix Spike				Well is broken and is not able to be used	
Duplicate				Well is blocked and is not able to be used	
				Cap is present	
				Well permit is present	

Sampled By: **JOB**

Comments:

No Vent Cap

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: E-0 198-MWS	Project Name: COA GW
Well Diameter (in): 2	Project Number: 2001210
Depth to Product (ft): -	Date: 6/7/22
Depth to Water (ft): 13.52	One Well Volume (gal): 4.0
Product Thickness (ft): -	Flow Rate (mL/min): 320
Depth to Bottom (ft): 38.07	Length of time Purged (min): 35

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1142	0.42	13.54	18.1	12.73	9.83	1.10	-169.6	2.01	
1147	0.85	13.53	18.4	12.72	9.83	0.90	-171.4	2.09	
1152	1.27	13.53	18.1	12.68	9.89	0.85	-172.8	1.96	
1157	1.69	13.53	18.1	12.71	11.09	0.22	-215.7	1.92	
1202	2.11	13.53	18.1	12.73	11.84	0.03	-246.3	2.29	SPL Sample
1207	2.54	13.53	18.5	12.74	11.90	0.09	-250.8	1.44	
1212	2.96	13.53	18.7	12.73	11.93	0.00	-248.3	2.30	

SAMPLE RECORD AND WELL DETAILS

Sample ID CO198-MWS		Time Collected 1215		Well Inspection	
				Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
				Well Pad Condition	
Sampling Parameters				Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping <input checked="" type="checkbox"/>	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO				Unsure: pad has been buried by site activities	
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Bolts in place <input checked="" type="checkbox"/>	
O&G				Bolts are missing <input checked="" type="checkbox"/>	
Total Cyanide		VOC,		Well Casing Condition	
TCL SVOCs		SVOC, TAL		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Well Condition	
TAL Metals and Mercury (dissolved)		Ammonia, COD,		Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft	
Hexavalent Chromium		Chloride, Turbidity,		_____ ft x _____ gal/ft = _____ (gal)	
PCB		TDS,		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Matrix Spike		Specific		Well is bent or broken but is able to be used	
Duplicate		Conductance		Well is broken and is not able to be used	
				Well is blocked and is not able to be used	
				Cap is present <input checked="" type="checkbox"/> (Not Vental)	
				Well permit is present <input checked="" type="checkbox"/>	

Comments:
Sampled By **TJP**

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C0201-MWS</u>	Project Name: <u>COA 64</u>
Well Diameter (in): <u>2</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u> </u>	Date: <u>5/1/22</u>
Depth to Water (ft): <u>11.99</u>	One Well Volume (gal): <u>4.3</u>
Product Thickness (ft): <u> </u>	Flow Rate (mL/min): <u>240</u>
Depth to Bottom (ft): <u>38.35</u>	Length of time Purged (min): <u>40</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1100	0.52	12.00	19.54	10.25	3.22	1129	-32	9.26	
1105	0.64	12.01	19.45	10.98	5.63	878	-51	7.87	
1110	0.96	12.02	19.29	11.07	5.02	860	-61	5.78	
1115	1.28	12.05	19.34	11.15	5.47	766	-74	4.94	
1120	1.6	12.00	19.36	11.14	5.42	1928	-85	3.48	
1130	1.92	12.00	19.28	11.16	5.44	506	-91	2.90	>
1135	2.24	12.00	19.25	11.18	5.42	446	-92	4.01	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C0201-MWS</u>	<u>1140</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	✓
TPH-DRO			
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride,	
PCB		Turbidity, TDS,	
Matrix Spike		Specific Conductance	
Duplicate			

Well has been found and is accessible without hazards. If no, explain in the comments section. ✓

Well Pad Condition

Good: no visible cracks and is sloping ✓

Fair: some visible cracks and/or not sloping

Poor: heavily cracked

Unsure: pad has been buried by site activities

Bolts in place NA

Bolts are missing

Well Casing Condition

Casing is free from damage and visibly marked with the Well ID

Well Condition

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft

ft x .163 gal/ft = _____ (gal)

Well is structurally sound: not bent, broken, and no blockage identified ✓

Well is bent or broken but is able to be used

Well is broken and is not able to be used

Well is blocked and is not able to be used

Cap is present ✓

Well permit is present ✓

Comments: PH appears off/high, No vent cap

Sampled By: TPP

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO201-MWS

Project Name: COA GW

Well Diameter (in): 7

Project Number: 2001210

Depth to Product (ft): -

Date: 5/9/22

Depth to Water (ft): 12.22

One Well Volume (gal): 3.8

Product Thickness (ft): -

Flow Rate (mL/min) 280

Depth to Bottom (ft): 35.50

Length of time Purged (min) 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1448	0.37	12.25	19.8	11.77	2.422	0.02	-166.9	26.4	
1453	0.74	12.25	19.9	11.88	2.422	0.00	-174.5	21.0	
1458	1.11	12.25	20.0	11.92	2.469	0.0	-179.8	15.6	
1503	1.47	12.25	20.0	11.93	2.477	0.0	-181.9	12.9	
1508	1.85	12.25	19.9	11.94	2.481	0.0	-183.8	11.8	7 ✓

SAMPLE RECORD AND WELL DETAILS

Sample ID		Time Collected		Well Inspection	
<u>CO201-MWS</u>		<u>1513</u>		Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
Sampling Parameters				Well Pad Condition	
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping ✓	
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO				Poor: heavily cracked	
TPH-DRO		BTEX and naphthalene	<u>8</u>	Unsured: pad has been buried by site activities	
O&G				Bolts in place	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Bolts are missing ✓	
TCL SVOCs				Well Casing Condition	
TAL Metals and Mercury (total)				Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (dissolved)				Well Condition	
Hexavalent Chromium				Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft ft x gal/ft = (gal)	
PCB				Well is structurally sound: not bent, broken, and no blockage identified ✓	
Matrix Spike				Well is bent or broken but is able to be used	
Duplicate				Well is broken and is not able to be used	
Comments:				Well is blocked and is not able to be used	
Sampled By: <u>JSB</u>				Cap is present (Not Verified) ✓	
				Well permit is present ✓	

DO - went to zero immediately

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO209-MWI	Project Name: COA 64
Well Diameter (in): 2	Project Number: 2001210
Depth to Product (ft): -	Date: 6/7/22
Depth to Water (ft): 9.65	One Well Volume (gal): 3.06
Product Thickness (ft): -	Flow Rate (mL/min): 360
Depth to Bottom (ft): 78.40	Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (su) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1031	0.48	9.65	18.6	12.06	2.869	0.04	-156.7	11.16	
1036	0.95	9.65	18.7	12.07	2.871	0.01	-162.7	5.98	
1041	1.43	9.65	18.7	12.09	2.871	0.08	-167.4	5.16	
1046	1.90	9.64	18.5	12.11	2.871	0.02	-165.0	9.67	
1051	2.38	9.64	18.6	12.12	2.870	0.00	-165.4	3.02	

SAMPLE RECORD AND WELL DETAILS

Sample ID CO209-MWS		Time Collected 1055		Well Inspection	
				Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
				Well Pad Condition	
				Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
				Fair: some visible cracks and/or not sloping	
				Poor: heavily cracked	
				Unsured: pad has been buried by site activities	
Sampling Parameters				Bolts in place	
Parameter	Collected?	Parameter	Collected?	Bolts are missing	
TCL-VOCs		Dissolved Zn and Cd			
TPH-GRO		BTEX and naphthalene	2	Well Casing Condition	
TPH-DRO				Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
O&G				Well Condition	
Total Cyanide		VOC, SVOC, TAL		Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft	
TCL SVOCs		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		_____ ft x _____ gal/ft = _____ (gal)	
TAL Metals and Mercury (total)				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)				Well is bent or broken but is able to be used	
Hexavalent Chromium				Well is broken and is not able to be used	
PCB				Well is blocked and is not able to be used	
Matrix Spike				Cap is present <input checked="" type="checkbox"/>	
Duplicate				Well permit is present in casing <input checked="" type="checkbox"/>	
Sampled By 708		Comments:			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO209-MW2	Project Name: COA 64
Well Diameter (in): 2	Project Number: 2001210
Depth to Product (ft): -	Date: 6/9/22
Depth to Water (ft): 9.33	One Well Volume (gal): 7.09
Product Thickness (ft): -	Flow Rate (mL/min): 400
Depth to Bottom (ft): 52.80	Length of time Purged (min):

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (su) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0945	0.53	9.34	18.6	10.99	1.591	3.80	69.7	2.57	
0950	1.06	9.34	18.5	11.13	1.695	3.25	-23.8	3.31	
0955	1.59	9.34	18.5	11.59	2.293	0.71	-143.9	6.97	
1000	2.11	9.34	18.6	11.79	2.337	0.06	-184.6	4.86	
1005	2.64	9.34	18.4	11.83	2.390	0.07	-191.6	3.91	
1010	3.17	9.34	18.4	11.85	2.424	0.03	-199.7	4.88	

SAMPLE RECORD AND WELL DETAILS

Sample ID CO209-MW2		Time Collected 1015		Well Inspection Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters				Well Pad Condition Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Unsure: pad has been buried by site activities	
TPH-DRO				Bolts in place	
O&G				Bolts are missing <input checked="" type="checkbox"/>	
Total Cyanide		VOC, SVOC, TAL		Well Casing Condition Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TCL SVOCs		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Condition Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
TAL Metals and Mercury (total)				Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)				Well is bent or broken but is able to be used	
Hexavalent Chromium				Well is broken and is not able to be used	
PCB				Well is blocked and is not able to be used	
Matrix Spike				Cap is present <input checked="" type="checkbox"/>	
Duplicate				Well permit is present <input checked="" type="checkbox"/> (Hand In Casing)	

Comments:
Sampled By: **[Signature]**

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>GD01-MW2</u>	Project Name: <u>COA GW</u>
Well Diameter (in): <u>2</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>-</u>	Date: <u>6/29/27</u>
Depth to Water (ft): <u>35.13</u>	One Well Volume (gal): <u>7.32</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min): <u>360</u>
Depth to Bottom (ft): <u>49.34</u>	Length of time Purged (min): <u>30</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1317	0.48	35.13	20.2	8.46	11.27	6.94	-188.5	64.0	
1322	0.95	35.13	18.3	8.45	11.23	6.69	-198.1	33.5	
1327	1.43	35.13	18.9	8.43	11.24	5.92	-199.3	19.8	
1332	1.90	35.13	18.8	8.43	11.24	5.63	-201.4	9.2	
1337	2.38	35.13	18.2	8.45	11.25	5.29	-198.1	9.94	
1342	2.85	35.13	18.2	8.95	11.24	5.01	-209.5	8.98	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection								
<u>GD01-MWI</u>	<u>1347</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓								
		Well Pad Condition								
Sampling Parameters		Good: no visible cracks and is sloping ✓								
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping						
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked						
TPH-GRO			Unsure: pad has been buried by site activities							
TPH-DRO		BTEX and naphthalene	X	Bolts in place ✓						
O&G			Bolts are missing							
Total Cyanide		Well Casing Condition								
TCL SVOCs		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Casing is free from damage and visibly marked with the Well ID <u>NA</u>						
TAL Metals and Mercury (total)			Well Condition							
TAL Metals and Mercury (dissolved)			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)							
Hexavalent Chromium			Well is structurally sound: not bent, broken, and no blockage identified ✓							
PCB			Well is bent or broken but is able to be used							
Matrix Spike Duplicate			Well is broken and is not able to be used							
		Well is blocked and is not able to be used								
		Cap is present ✓								
		Well permit is present ✓								

Comments: USE WHALE PUMP

Sampled By: TJP

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: GD02-MWI	Project Name: COA 6V
Well Diameter (in): 2"	Project Number: 200/0210
Depth to Product (ft): None	Date: 5/5/22
Depth to Water (ft): 20.26	One Well Volume (gal): 4.80
Product Thickness (ft): NA	Flow Rate (mL/min): 360
Depth to Bottom (ft): 49.69	Length of time Purged (min): 50

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0931	0.48	20.47	16.00	6.90	0.389	10.40	164	31.2	
0936	0.96	20.48	15.17	7.24	0.384	11.49	85	31.7	
0941	1.44	20.49	15.16	7.29	0.384	11.29	61	30.0	
0946	1.92	20.50	15.36	7.30	0.393	10.35	16	28.9	
0951	2.4	20.50	15.24	7.32	0.404	9.82	0	30.3	
0956	2.88	20.51	15.10	7.35	0.458	9.69	-10	28.2	Horiz. shut
1001	3.34	20.51	15.40	7.37	0.672	75.1	-149	31.1	see
1006	3.8	20.50	15.44	7.41	2.89	15.97	-305	28.3	
1011	4.26	20.50	15.78	7.39	2.93	20.34	-295	28.1	
1016	4.74	20.50	16.01	7.24	2.94	21.19	-290	27.4	*

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection		
GD02-MWI	1020	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓		
		Well Pad Condition		
Sampling Parameters		Good: no visible cracks and is sloping ✓		
Parameter	Collected?	Parameter	Collected?	
TCL-VOCs		Dissolved Zn and Cd	Fair: some visible cracks and/or not sloping	
TPH-GRO			Poor: heavily cracked	
TPH-DRO		BTEX and naphthalene ✓	Unsure: pad has been buried by site activities	
O&G			Bolts in place UN	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Bolts are missing UN	
TCL SVOCs			Well Casing Condition	
TAL Metals and Mercury (total)			Casing is free from damage and visibly marked with the Well ID NA	
TAL Metals and Mercury (dissolved)			Well Condition	
Hexavalent Chromium			Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft 29.23 ft x 165 gal/ft = _____ (gal)	
PCB			Well is structurally sound: not bent, broken, and no blockage identified ✓	
Matrix Spike			Well is bent or broken but is able to be used	
Duplicate			Well is broken and is not able to be used	
Comments:		Well is blocked and is not able to be used ✓		
Sampled By	No Vent CAP - [unclear]			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: 6DQ2-MW1 6DQ2-MW2	Project Name: COA GW
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): None	Date: 6/29/22
Depth to Water (ft): 19.82	One Well Volume (gal): 9.81
Product Thickness (ft): —	Flow Rate (mL/min) 320
Depth to Bottom (ft): 49.34	Length of time Purged (min) 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1436	0.42	20.02 20.02	16.6	7.72	0.705	0.24	-192.9	33.5	
1441	0.85	20.03	16.6	7.72	0.930	0.15	224.5	29.1	
1446	1.27	20.03	16.8	7.59	9.03	0.01	-323.7	48.8	
1451	1.69	20.03	17.5	7.70	7.28	0.06	-393.7	22.1	
1456	2.11	20.03	17.5	7.75	7.39	0.12	-396.5	17.8	
1501	2.54	↓	17.6	7.77	7.43	0.16	-351.9	16.6	Z
1506	2.96	↓	17.7	7.77	7.47	0.15	-353.1	16.0	
1511	3.38	↓	17.3	7.80	7.51	0.13	-354.2	15.3	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
6DQ2-MW2	1515	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	X
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride,	
PCB		Turbidity,	
Matrix Spike		TDS,	
Duplicate		Specific Conductance	

Well Casing Condition

Casing is free from damage and visibly marked with the Well ID

Well Condition

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft

_____ ft x _____ gal/ft = _____ (gal)

Well is structurally sound: not bent, broken, and no blockage identified

Well is bent or broken but is able to be used

Well is broken and is not able to be used

Well is blocked and is not able to be used

Cap is present **Not Vented**

Well permit is present

Sampled By

[Signature]

Comments:

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C023-P2M008</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>8/3/22</u>
Depth to Water (ft): <u>15.10</u>	One Well Volume (gal): <u>1.15</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min): <u>300</u>
Depth to Bottom (ft): <u>27.15</u>	Length of time Purged (min): <u>30</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0815	0.4	15.10	21.2	11.02	2.181	0.63	-152.0	16.7	
0820	0.79	15.10	20.9	11.09	2.091	0.06	-231.2	14.1	
0825	1.19	15.10	21.3	11.08	2.081	0.01	-283.4	3.03	
0830	1.59	15.10	21.4	11.10	2.086	0.01	-301.8	1.68	
0835	1.98	15.10	21.2	11.07	2.079	0.0	-304.2	1.33	
0840	2.38	15.10	21.5	11.08	2.085	0.0	-308.6	1.39	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C023-P2M008</u>	<u>0845</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsure: pad has been buried by site activities	
O&G		Bolts in place	
Total Cyanide		Bolts are missing	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
PCB		_____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Duplicate		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	

Comments: _____

Sampled By: [Signature]

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO24-121009</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2"</u>	Project Number: 20010210
Depth to Product (ft): <u>-</u>	Date: <u>8/3/22</u>
Depth to Water (ft): <u>14.79</u>	One Well Volume (gal): <u>1.2</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min): <u>300</u>
Depth to Bottom (ft): <u>22.15</u>	Length of time Purged (min): <u>35</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0924	0.4	15.30	19.8	10.31	-31.5	0.63	1237	2.29	
0929	0.79	15.44	19.7	9.95	-38.1	0.18	1.574	13.1	
0934	1.19	15.45	19.7	9.89	-39.0	0.15	2.001	9.89	
0939	1.59	15.46	20.0	9.64	-46.9	0.06	2.156	4.09	
0944	1.98	15.48	19.9	9.59	-63.3	0.02	2.303	4.28	
0949	2.38	15.48	19.9	9.58	-66.3	0.01	2.529	3.39	✓
0954	2.77	15.48	19.9	9.58	-71.9	0.02	2.363	2.98	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>CO24-121009</u>	<u>1000</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	✗
TPH-DRO			
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride,	
PCB		Turbidity,	
Matrix Spike		TDS,	
Duplicate		Specific Conductance	

Well Casing Condition	
Casing is free from damage and visibly marked with the Well ID	✓
Well Condition	
Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
_____ ft x _____ gal/ft = _____ (gal)	
Well is structurally sound: not bent, broken, and no blockage identified	✓
Well is bent or broken but is able to be used	
Well is broken and is not able to be used	
Well is blocked and is not able to be used	
Cap is present	✓
Well permit is present	

Comments: _____

Sampled By: [Signature]

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO 26-P2M 007	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): 2^{1/4}	Project Number: 20010210
Depth to Product (ft): —	Date: 8/3/22
Depth to Water (ft): 4.81	One Well Volume (gal): 5.2
Product Thickness (ft): —	Flow Rate (mL/min): 300
Depth to Bottom (ft): 46.95	Length of time Purged (min): 35

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1110	0.4	15.35	18.5	7.79	8.69	3.51	69.0	7.49	
1115	0.79	15.35	19.7	7.33	15.98	0.74	28.1	10.98	
1120	1.19	↓	19.6	7.33	16.92	0.36	-17.3	9.89	
1125	1.59		19.6	7.44	17.20	0.28	-87.3	5.43	
1130	1.98		19.7	7.52	17.33	0.23	-108.0	4.36	7
1135	2.38		19.7	7.55	17.34	0.22	-112.9	4.93	
1140	2.37		19.7	7.51	17.34	0.21	-113.6	2.71	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO26-P2M 007	1145	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	8
TPH-DRO			
O&G		Fair: some visible cracks and/or not sloping	
Total Cyanide		Poor: heavily cracked	
TCL SVOCs		Unsured: pad has been buried by site activities	
TAL Metals and Mercury (total)		Well Casing Condition	
TAL Metals and Mercury (dissolved)		Casing is free from damage and visibly marked with the Well ID	
Hexavalent Chromium		Well Condition	
PCB		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
Matrix Spike		_____ ft x _____ gal/ft = _____ (gal)	
Duplicate		Well is structurally sound: not bent, broken, and no blockage identified ✓	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present N	

Comments:

Sampled By **XJR**

NO CASING COVER

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO27-12A012</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2"</u>	Project Number: 20010210
Depth to Product (ft): <u>-</u>	Date: <u>8/10/22</u>
Depth to Water (ft): <u>0.34 4.89</u>	One Well Volume (gal): <u>2.05</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min) <u>300</u>
Depth to Bottom (ft): <u>17.45</u>	Length of time Purged (min) <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1100	0.4	4.90	19.5	10.91	1650	0.54	-272.9	1.68	
1105	0.79	4.90	19.7	11.07	1560	0.29	-290.3	1.25	
1110	1.19	4.90	20.0	11.05	1509	310.9	0.17	1.63	<div style="font-size: 2em;">Z</div>
1115	1.59	4.90	20.2	11.06	1499	0.17	-315.1	1.29	
1120	1.98	4.90	20.0	11.06	1497	0.15	-316.8	1.91	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>CO27-12A012</u>	<u>1125</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	Fair: some visible cracks and/or not sloping
TPH-GRO			Poor: heavily cracked
TPH-DRO		BTEX and naphthalene	Unsure: pad has been buried by site activities Z
O&G			Bolts in place
Total Cyanide			Bolts are missing
TCL SVOCs		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Well Casing Condition
TAL Metals and Mercury (total)			Casing is free from damage and visibly marked with the Well ID ✓
TAL Metals and Mercury (dissolved)			Well Condition
Hexavalent Chromium			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)
PCB			Well is structurally sound: not bent, broken, and no blockage identified ✓
Matrix Spike			Well is bent or broken but is able to be used
Duplicate			Well is broken and is not able to be used
			Well is blocked and is not able to be used
			Cap is present
			Well permit is present No

Sampled By: [Signature] Comments: _____

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO27-12M046</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2"</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>8/10/22</u>
Depth to Water (ft): <u>7.44</u>	One Well Volume (gal): <u>7.15</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min): <u>320</u>
Depth to Bottom (ft): <u>51.32</u>	Length of time Purged (min): <u>35</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1345	0.4	7.95	19.6	11.03	1.849	0.22	-309.9	7.71	
1350	0.79	7.45	19.7	11.11	1.853	0.20	-312.5	8.01	
1355	1.19	7.45	20.2	11.15	1.873	0.15	-319.3	8.02	
1400	1.59	7.45	20.9	11.14	1.863	0.13	-327.3	7.55	
1405	1.98	7.45	20.8	11.16	1.867	0.15	-321.1	4.82	
1410	2.38	7.45	19.9	11.17	1.866	0.16	-322.1	4.98	
1415	2.77								

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>CO27-12M046</u>	<u>1420</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsure: pad has been buried by site activities ✓	
O&G		Bolts in place	
Total Cyanide		Bolts are missing	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
PCB		_____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified ✓	
Duplicate		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present ✓	

Comments:

Sampled By

[Signature]

[Signature]

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO30-P2M015	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): —	Date: 8/2/22
Depth to Water (ft): 11.90	One Well Volume (gal): 2.56
Product Thickness (ft): —	Flow Rate (mL/min) 300
Depth to Bottom (ft): 27.60	Length of time Purged (min) 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1425	0.4	11.93	23.9	11.41	2780	0.11	-70.7	3.18	
1430	0.79	11.93	23.8	11.44	2782	0.09	-72.6	3.33	
1440	1.59	11.93	23.1	11.49	2772	0.04	-77.8	4.06	
1445	1.98	11.93	23.2	11.54	2768	0.04	-79.1	3.72	
1450	2.38	26	23.4	11.53	2770	0.03	-78.9	3.51	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
CO30 - P2M015	1455	Well has been found and is accessible without hazards. If no, explain in the comments section.							
		Well Pad Condition							
Sampling Parameters		Good: no visible cracks and is sloping							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO		BTEX and naphthalene	X	Unsure: pad has been buried by site activities					
TPH-DRO				Bolts in place					
O&G		Bolts are missing							
Total Cyanide		Well Casing Condition							
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID							
TAL Metals and Mercury (total)		Well Condition							
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)							
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified							
PCB		Well is bent or broken but is able to be used							
Matrix Spike		Well is broken and is not able to be used							
Duplicate		Well is blocked and is not able to be used							
		Cap is present							
		Well permit is present							

Sampled By: *[Signature]* Comments: **Took phone call between 1430 - 1430*

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO36-P2M008</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>-</u>	Date: <u>8/9/22</u>
Depth to Water (ft): <u>6.46</u>	One Well Volume (gal): <u>1.25</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min) <u>300</u>
Depth to Bottom (ft): <u>14.15</u>	Length of time Purged (min) <u>30</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0900	0.4	8	21.8	11.27	2720	0.16	-233.0	9.16	
0905	0.79	8	22.4	11.14	2567	0.28	-193.0	4.48	
0910	1.19	8	22.3	11.11	2513	0.28	-188.9	3.08	
0915	1.59	8	22.4	11.11	2469	0.20	-196.6	3.63	
0920	1.98	8	22.4	11.12	2439	0.17	-203.9	1.74	
0925	2.38	8	22.5	11.12	2451	0.11	-205.6	1.75	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO36 P2M008	0930	Well has been found and is accessible without hazards. If no, explain in the comments section.	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsure: pad has been buried by site activities	
O&G		Bolts in place	
Total Cyanide		Bolts are missing	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
PCB		_____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified	
Duplicate		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present	
		Well permit is present	

Sampled By: HSF Comments: O/w Probe Battery Dead

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO36-P2M043 CO36-P2M043	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): 2	Date: 8/9/22
Depth to Water (ft): 6.99	One Well Volume (gal): 7.35
Product Thickness (ft): 2	Flow Rate (mL/min) 400
Depth to Bottom (ft): 52.10	Length of time Purged (min) 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0816	0.53	7.00	19.7	11.49	3.334	0.46	-274.8	1.70	
0821	1.06	X	19.6	11.41	3.353	0.17	-284.2	1.25	3
0826	1.59		19.6	11.40	3.354	0.13	-289.3	1.17	
0831	2.11		19.6	11.42	3.355	0.09	-293.8	1.50	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO36-P2M043	0835	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsured: pad has been buried by site activities	
O&G		Bolts in place	
Total Cyanide		Bolts are missing	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
PCB		_____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified ✓	
Duplicate		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present	
		Well permit is present	

Sampled By: [Signature] Comments: **O/W Probe BATHSY Read**

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO38-P2A006	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): —	Date: 8/10/22
Depth to Water (ft): 6.41	One Well Volume (gal): 1.52
Product Thickness (ft): —	Flow Rate (mL/min) 306
Depth to Bottom (ft): 15.72	Length of time Purged (min) 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1000	.4	6.49	20.3	9.39	2.302	0.27	293.5	3.71	
1005	.79	6.49	20.4	9.50	2.295	0.21	297.2	3.73	
1010	1.19	6.49	21.0	9.56	2.282	0.17	302.9	2.56	
1015	1.59	6.50	21.2	9.62	2.279	0.15	310.4	2.87	
1020	1.98	6.49	21.3	9.66	2.282	0.15	313.5	3.09	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
CO38-P2A006	1025	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓							
Sampling Parameters		Well Pad Condition							
Good: no visible cracks and is sloping		Well Pad Condition							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO				Unsured: pad has been buried by site activities ✓					
TPH-DRO		BTEX and naphthalene	✓	Bolts in place					
O&G				Bolts are missing					
Total Cyanide		VOC,		Well Casing Condition					
TCL SVOCs		SVOC, TAL		Casing is free from damage and visibly marked with the Well ID ✓					
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Well Condition					
TAL Metals and Mercury (dissolved)		Ammonia, COD, Alkalinity,		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft					
Hexavalent Chromium		Chloride, Turbidity,		_____ ft x _____ gal/ft = _____ (gal)					
PCB		TDS,		Well is structurally sound: not bent, broken, and no blockage identified ✓					
Matrix Spike		Specific Conductance		Well is bent or broken but is able to be used					
Duplicate				Well is broken and is not able to be used					
Comments:				Well is blocked and is not able to be used					
Sampled By				Cap is present ✓					
				Well permit is present ✓					

Sampled By
[Signature]

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C037-P21038</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>24</u>	Project Number: 20010210
Depth to Product (ft): _____	Date: <u>8/11/22</u>
Depth to Water (ft): <u>12.47</u>	One Well Volume (gal): <u>5.9</u>
Product Thickness (ft): _____	Flow Rate (mL/min) <u>360</u>
Depth to Bottom (ft): <u>49.85</u>	Length of time Purged (min) <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0940	0.47	12.63	18.2	11.47	2.482	0.34	314.6	2.23	
0945	0.95	12.63	18.8	11.54	2.463	0.35	317.5	1.93	
0950	1.43	12.64	18.8	11.61	2.446	0.33	327.6	1.18	
0955	1.90	12.64	18.8	11.62	2.427	0.21	327.7	1.69	
1000	2.38	12.65	18.4	11.63	2.424	0.18	323.4	1.74	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection
<u>C037-P21038</u>	<u>1005</u>	Well has been found and is accessible without hazards. If no, explain in the comments section.
		Well Pad Condition
Sampling Parameters		Good: no visible cracks and is sloping
Parameter	Collected?	Fair: some visible cracks and/or not sloping
TCL-VOCs		Poor: heavily cracked
TPH-GRO		Unsured: pad has been buried by site activities
TPH-DRO		Bolts in place
O&G		Bolts are missing
Total Cyanide		Well Casing Condition
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID
TAL Metals and Mercury (total)		Well Condition
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
Hexavalent Chromium		_____ ft x _____ gal/ft = _____ (gal)
PCB		Well is structurally sound: not bent, broken, and no blockage identified
Matrix Spike		Well is bent or broken but is able to be used
Duplicate		Well is broken and is not able to be used
		Well is blocked and is not able to be used
		Cap is present
		Well permit is present
Sampled By	Comments:	
<u>[Signature]</u>		

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C038-P2M043</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2"</u>	Project Number: 20010210
Depth to Product (ft): <u>7.02</u>	Date: <u>8/19/22</u>
Depth to Water (ft): <u>7.02</u>	One Well Volume (gal): <u>6.94</u>
Product Thickness (ft): <u>49.60</u>	Flow Rate (mL/min): <u>300</u>
Depth to Bottom (ft): <u>49.60</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1335	0.4	8.51	21.8	7.29	1.712	0.19	-178.2	3.05	
1340	0.79	8.69	22.2	7.22	1.713	0.16	-181.5	3.56	
1345	1.19	8.78	21.9	7.33	1.717	0.18	-182.4	3.33	
1350	1.59	8.82	21.6	7.32	1.718	0.17	-182.8	3.71	
1355	1.98	8.85	21.7	7.31	1.713	0.19	-184.0	4.26	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection
<u>C038-P2M043</u>	<u>1400</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓
Sampling Parameters		Well Pad Condition
Parameter	Collected?	Good: no visible cracks and is sloping
TCL-VOCs		Fair: some visible cracks and/or not sloping
TPH-GRO		Poor: heavily cracked
TPH-DRO		Unsure: pad has been buried by site activities ✓
O&G		Bolts in place
Total Cyanide		Bolts are missing
TCL SVOCs		Well Casing Condition
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID ✓
TAL Metals and Mercury (dissolved)		Well Condition
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. 1.47 gal/ft
PCB		ft x gal/ft (gal)
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified ✓
Duplicate		Well is bent or broken but is able to be used
		Well is broken and is not able to be used
		Well is blocked and is not able to be used
		Cap is present ✓
		Well permit is present ✓

Comments: ✓

Sampled By: [Signature]

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C039-P2M007</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2"</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>8/10/22</u>
Depth to Water (ft): <u>7.44</u>	One Well Volume (gal): <u>1.7</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min): <u>305</u>
Depth to Bottom (ft): <u>17.95</u>	Length of time Purged (min): <u>—</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0824	0.40	8.17	21.3	11.17	2.933	0.26	-3322	4.11	
0829	0.79	8.19	21.9	11.03	2.849	0.18	-3301	1.59	
0834	1.19	8.19	21.8	11.02	2.869	0.15	-329.1	1.12	
0839	1.59	8.19	21.1	11.01	2.887	0.14	-327.0	1.06	
0844	1.98	8.19	22.1	10.98	2.889	0.13	-329.5	1.37	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
<u>C039-P2M007</u>	<u>0850</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓							
Sampling Parameters		Well Pad Condition							
Good: no visible cracks and is sloping ✓		Fair: some visible cracks and/or not sloping							
Parameter	Collected?	Parameter	Collected?	Poor: heavily cracked					
TCL-VOCs		Dissolved Zn and Cd		Unsured: pad has been buried by site activities					
TPH-GRO		BTEX and naphthalene	✗	Bolts in place					
TPH-DRO				Bolts are missing					
O&G		Well Casing Condition							
Total Cyanide		Casing is free from damage and visibly marked with the Well ID ✓							
TCL SVOCs		Well Condition							
TAL Metals and Mercury (total)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)							
TAL Metals and Mercury (dissolved)		Well is structurally sound: not bent, broken, and no blockage identified ✓							
Hexavalent Chromium		Well is bent or broken but is able to be used							
PCB		Well is broken and is not able to be used							
Matrix Spike		Well is blocked and is not able to be used							
Duplicate		Cap is present ✓							
Comments:		Well permit is present N.							

Sampled By [Signature]

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO 39 - Perm 642</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2 1/2</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>8/10/22</u>
Depth to Water (ft): <u>8.35</u>	One Well Volume (gal): <u>6.6</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min): <u>360</u>
Depth to Bottom (ft): <u>48.95</u>	Length of time Purged (min): <u>2.5</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0737	0.48	8.47	19.2	11.56	3.268	0.40	345.5	2.38	
0742	0.95	8.48	19.0	11.59	3.252	0.77	355.7	2.59	
0747	1.43	8.48	19.2	11.60	3.210	0.22	368.3	2.60	7
0752	1.90	8.48	19.3	11.59	3.265	0.28	367.1	2.18	7
0757	2.38	8.50	19.5	11.59	3.142	0.30	366.9	2.20	7
0802	3.33	8.50	19.4	11.59	3.138	0.31	365.8	2.11	7

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>CO 39 - Perm 642</u>	<u>0805</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsured: pad has been buried by site activities	
O&G		Bolts in place <input checked="" type="checkbox"/>	
Total Cyanide		Bolts are missing <input checked="" type="checkbox"/>	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
PCB		_____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Duplicate		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	

Sampled By: [Signature] Comments: _____

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C040-PTM008	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): —	Date: 8/11/22
Depth to Water (ft): 6.35	One Well Volume (gal): 1.87
Product Thickness (ft): —	Flow Rate (mL/min): 3.00
Depth to Bottom (ft): 17.80	Length of time Purged (min): 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1232	.4		20.05	8.94	2.960	0.46	260.9	8.30	
1237	0.79		20.3	9.15	2.933	0.27	274.5	6.27	
1242	1.19		19.9	9.61	2.884	0.12	292.4	2.99	
1247	1.59		19.6	9.81	2.870	0.11	295.1	2.83	
1252	1.98		20.6	9.91	2.860	0.11	297.9	3.10	
1257	2.38		20.8	10.07	2.863	0.08	300.1	2.16	
1302	2.77		20.9	10.17	2.872	0.08	300.9	2.14	
1307	3.17		20.9	10.23	2.882	0.07	301.8	1.95	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C040-PTM008	1312	Well has been found and is accessible without hazards. If no, explain in the comments section. (A)	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	X
TPH-DRO		VOC, SVOC, TAL	
O&G		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	
Total Cyanide		Well Casing Condition	
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID	
TAL Metals and Mercury (total)		Well Condition	
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified ✓	
PCB		Well is bent or broken but is able to be used	
Matrix Spike		Well is broken and is not able to be used	
Duplicate		Well is blocked and is not able to be used	
		Cap is present	
		Well permit is present ✓	

Sampled By: _____

Comments: *** Blocked by high vegetation**
Did not measure DTW due to blockage

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO41-P2n001</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>2</u>	Date: <u>8/9/22</u>
Depth to Water (ft): <u>13.05</u>	One Well Volume (gal): <u>0.48</u>
Product Thickness (ft): <u>16.05</u>	Flow Rate (mL/min): <u>500</u>
Depth to Bottom (ft): <u>16.05</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1143	0.4	13.36	28.3	7.39	0.946	0.14	-326.6	3.28	
1148	0.79	13.38	28.3	7.41	0.914	0.09	-328.4	2.21	
1153	1.19	13.38	28.3	7.52	0.888	0.06	-332.1	2.95	
1158	1.59	13.40	28.4	7.53	0.885	0.05	-332.5	2.36	7/2 ✓
1203	1.98	13.40	28.3	7.57	0.877	0.03	-329.3	2.73	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
CO41-P2n001	1210	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓							
		Well Pad Condition							
Sampling Parameters		Good: no visible cracks and is sloping ✓							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO			BTEX and naphthalene		Unsure: pad has been buried by site activities				
TPH-DRO		X			Bolts in place				
O&G					Bolts are missing				
Total Cyanide		Well Casing Condition							
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID ✓							
Well Condition		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft							
Well Condition		_____ ft x _____ gal/ft = _____ (gal)							
TAL Metals and Mercury (total)		Well is structurally sound: not bent, broken, and no blockage identified ✓							
TAL Metals and Mercury (dissolved)		Well is bent or broken but is able to be used							
Hexavalent Chromium		Well is broken and is not able to be used							
PCB		Well is blocked and is not able to be used							
Matrix Spike		Cap is present ✓							
Duplicate		Well permit is present no							

Comments: _____

Sampled By: [Signature]

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO41-P2M036</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2"</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>8/9/22</u>
Depth to Water (ft): <u>13.65</u>	One Well Volume (gal): <u>5.95</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min): <u>300</u>
Depth to Bottom (ft): <u>50.15</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1054	0.4	13.67	22.1	10.67	2.134	0.11	-309.7	3.76	
1059	0.79	13.67	24.5	10.68	2.188	0.08	-329.5	5.29	
1104	1.19	13.67	24.4	10.72	2.261	0.04	337.3	3.50	
1109	1.59	13.67	24.3	10.72	2.262	0.02	-340.6	3.94	7
1114	1.98	↓	24.2	10.72	2.268	0.00	-343.3	3.48	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>CO41-P2M036</u>	<u>1120</u>	Well has been found and is accessible without hazards. If no, explain in the comments section.	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsured: pad has been buried by site activities	
O&G		Bolts in place	
Total Cyanide		Bolts are missing	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
PCB		_____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified	
Duplicate		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present	
		Well permit is present	

Comments: N

Sampled By: [Signature]

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C042-P2M004	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): -	Date: 8/4/22
Depth to Water (ft): 8.63	One Well Volume (gal): 120
Product Thickness (ft): -	Flow Rate (mL/min): 300
Depth to Bottom (ft): 16.35	Length of time Purged (min): 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1330	0.4	9.05	23.5	7.80	1.140	0.30	13.7	3.41	
1335	0.79	9.41	23.4	7.64	1.145	0.14	46.9	3.31	
1340	1.19		24.2	7.48	1.125	0.18	32.5	4.88	
1345	1.59		23.3	7.54	1.111	0.09	31.1	2.55	
1350	1.98		23.9	7.68	1.083	0.03	109.4	1.91	
1355	2.38		24.1	7.81	1.072	0.03	115.8	1.42	
1400	2.77		24.0	7.83	1.069	0.04	118.1	1.91	
1405	3.17		24.1	7.94	1.066	0.05	117.5	2.25	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID C042-P2M004	Time Collected 1410	Well Inspection
		Well has been found and is accessible without hazards. If no, explain in the comments section. ✓
		Well Pad Condition
Sampling Parameters		Good: no visible cracks and is sloping ✓
Parameter	Collected?	Fair: some visible cracks and/or not sloping
TCL-VOCs		Poor: heavily cracked
TPH-GRO		Unsured: pad has been buried by site activities
TPH-DRO		Bolts in place
O&G		Bolts are missing
Total Cyanide		Well Casing Condition
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID
TAL Metals and Mercury (total)		Well Condition
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified ✓
PCB		Well is bent or broken but is able to be used
Matrix Spike		Well is broken and is not able to be used
Duplicate		Well is blocked and is not able to be used
		Cap is present
		Well permit is present ✓

Sampled By: **[Signature]** Comments: **DTW gauge battery dead**

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>COSS-P2M000</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>8/3/22</u>
Depth to Water (ft): <u>14.55</u>	One Well Volume (gal): <u>0.42</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min) <u>120</u>
Depth to Bottom (ft): <u>17.17</u>	Length of time Purged (min) <u>15</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1425	0.16	16.04	25.6	11.40	2.699	1.62	-59.3	95.9	
1430	0.32	16.76	26.6	11.36	2.271	2.59	-52.1	37.7	
0.48									
Well RAN PR7									

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
COSS-P2M000	1500	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>							
		Well Pad Condition							
Sampling Parameters		Good: no visible cracks and is sloping <input checked="" type="checkbox"/>							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO					Unsured: pad has been buried by site activities				
TPH-DRO		BTEX and naphthalene	8	Bolts in place					
O&G				Bolts are missing					
Total Cyanide		VOC,		Well Casing Condition					
TCL SVOCs		SVOC, TAL		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>					
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Well Condition					
TAL Metals and Mercury (dissolved)		Ammonia, COD, Alkalinity,		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft					
Hexavalent Chromium		Chloride, Turbidity,		_____ ft x _____ gal/ft = _____ (gal)					
PCB		TDS,		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>					
Matrix Spike		Specific Conductance		Well is bent or broken but is able to be used					
Duplicate				Well is broken and is not able to be used					
				Well is blocked and is not able to be used					
				Cap is present <input checked="" type="checkbox"/>					
				Well permit is present <input checked="" type="checkbox"/>					

Sampled By: JSP Comments: Well RAN PR7

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO56-P2P001</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>8/3/22</u>
Depth to Water (ft): <u>15.36</u>	One Well Volume (gal): <u>0.61</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min) <u>2.06</u>
Depth to Bottom (ft): <u>19.10</u>	Length of time Purged (min) <u>20</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1330	0.26	15.38	24.8	10.78	2.536	0.22	78.9	3.94	
1335	0.53	15.38	24.5	10.96	2.479	0.05	61.6	1.73	3 ✓
1340	0.79	15.38	24.4	11.00	2.465	0.04	57.8	2.11	
1345	1.06	15.38	24.9	11.02	2.458	0.02	58.2	1.35	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection		
<u>CO56-P2P001</u>	<u>1350</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓		
		Well Pad Condition		
Sampling Parameters		Good: no visible cracks and is sloping		
Parameter	Collected?	Parameter	Collected?	
TCL-VOCs		Dissolved Zn and Cd		
TPH-GRO			Fair: some visible cracks and/or not sloping	
TPH-DRO		BTEX and naphthalene	Poor: heavily cracked	
O&G			Unsured: pad has been buried by site activities ✓	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Bolts in place	
TCL SVOCs			Bolts are missing	
TAL Metals and Mercury (total)			Well Casing Condition	
TAL Metals and Mercury (dissolved)			Casing is free from damage and visibly marked with the Well ID	
Hexavalent Chromium			Well Condition	
PCB			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike			Well is structurally sound: not bent, broken, and no blockage identified ✓	
Duplicate			Well is bent or broken but is able to be used	
			Well is broken and is not able to be used	
			Well is blocked and is not able to be used	
		Cap is present ✓		
		Well permit is present ✓		

Comments:

Sampled By

[Signature]

No found

[Signature]

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>1057-P2P002</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2"</u>	Project Number: 20010210
Depth to Product (ft): <u>-</u>	Date: <u>7/4/22</u>
Depth to Water (ft): <u>16.04</u>	One Well Volume (gal): <u>0.31</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min): <u>120</u>
Depth to Bottom (ft): <u>17.93</u>	Length of time Purged (min): <u>15</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1135	0.16	17.00	30.7	10.31	1.337	1.67	15.9	24.6	
1140	0.32	17.25	31.1	10.54	1.199	1.83	9.4	7.33	
1145	0.48	17.55	31.6	0.67	1.165	1.06	1.5	3.69	
1150	<u>DRY</u>								

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
<u>1057-P2P002</u>	<u>1205</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>							
		Well Pad Condition							
Sampling Parameters		Good: no visible cracks and is sloping <input checked="" type="checkbox"/>							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO		BTEX and naphthalene		Unsure: pad has been buried by site activities					
TPH-DRO				Bolts in place					
O&G		Bolts are missing							
Total Cyanide		Well Casing Condition							
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>							
TAL Metals and Mercury (total)		Well Condition							
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)							
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>							
PCB		Well is bent or broken but is able to be used							
Matrix Spike		Well is broken and is not able to be used							
Duplicate		Well is blocked and is not able to be used							
		Cap is present <input checked="" type="checkbox"/>							
		Well permit is present <input checked="" type="checkbox"/>							

Comments: Well RAN DRY

Sampled By: ASJ

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C058-P2M001</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>-</u>	Date: <u>8/4/22</u>
Depth to Water (ft): <u>13.75</u>	One Well Volume (gal): <u>0.89</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min): <u>300</u>
Depth to Bottom (ft): <u>19.20</u>	Length of time Purged (min): <u>35</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
12:25	0.4	14.31	24.2	10.96	1.826	0.20	-7.9	5.58	
12:30	0.79	14.73	23.9	10.76	1.761	0.56	-4.2	5.42	
12:35	1.19	15.75	24.1	9.81	0.800	0.73	21.2	1.78	
12:40	1.59	16.50	24.5	10.15	0.828	0.64	21.4	1.30	
12:45	1.98	17.13	23.7	10.99	1.151	0.62	-3.3	1.90	↑
12:50	2.38	17.70	24.2	10.71	1.141	0.54	0.2	1.88	74
12:55	2.77	-	24.4	10.73	1.202	0.46	-5.7	2.23	74

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C058-P2M001</u>	<u>1300</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters		Well Pad Condition	
Good: no visible cracks and is sloping <input checked="" type="checkbox"/>		Well Pad Condition	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	<input checked="" type="checkbox"/>
TPH-DRO		VOC, SVOC, TAL	
O&G		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	
Total Cyanide		Well Casing Condition	
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)		Well Condition	
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
PCB		Well is bent or broken but is able to be used	
Matrix Spike		Well is broken and is not able to be used	
Duplicate		Well is blocked and is not able to be used	
Comments:		Cap is present <input checked="" type="checkbox"/>	
Sampled By: <u>TSP</u>		Well permit is present <input checked="" type="checkbox"/>	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO 59-P2P002</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2"</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>8/19/22</u>
Depth to Water (ft): <u>16.09</u>	One Well Volume (gal):
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min) <u>2.00</u>
Depth to Bottom (ft): <u>18.95</u>	Length of time Purged (min) <u>35</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1032	0.26	16.09	26.9	8.23	2.713	0.66	169.0	39.6	
1037	0.53	16.10	27.1	8.77	2.253	0.34	137.1	9.84	
1042	0.79	16.10	26.8	9.08	2.214	0.32	120.3	1.43	
1047	1.06	16.15	27.2	9.54	2.262	0.37	189.1	1.43	
1052	1.32	16.15	26.3	10.16	2.169	0.68	15.7	3.18	
1057	1.59	16.15	26.0	10.14	2.152	0.56	48.7	1.39	
1102	1.85	16.15	26.5	10.13	2.147	0.54	45.6	1.46	

SAMPLE RECORD AND WELL DETAILS

Sample ID: <u>CO 59-P2P002</u>		Time Collected: <u>1105</u>		Well Inspection	
				Well has been found and is accessible without hazards. If no, explain in the comments section. <u>No</u>	
				Well Pad Condition	
Sampling Parameters				Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd	<u>X</u>	Poor: heavily cracked	
TPH-GRO		BTEX and naphthalene	<u>X</u>	Unsure: pad has been buried by site activities <u>X</u>	
TPH-DRO		VOC, SVOC, TAL		Bolts in place	
O&G		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Bolts are missing	
Total Cyanide				Well Casing Condition	
TCL SVOCs				Casing is free from damage and visibly marked with the Well ID <u>✓</u>	
TAL Metals and Mercury (total)				Well Condition	
TAL Metals and Mercury (dissolved)				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified <u>✓</u>	
PCB				Well is bent or broken but is able to be used	
Matrix Spike				Well is broken and is not able to be used	
Duplicate				Well is blocked and is not able to be used	
				Cap is present	
				Well permit is present <u>✓</u>	

Comments:

Sampled By: JP

Well 13 in a hollar and blocked by brush

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO60-P2P001	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): -	Date: 8/3/22
Depth to Water (ft): 15.45	One Well Volume (gal):
Product Thickness (ft): -	Flow Rate (mL/min)
Depth to Bottom (ft): 15.5	Length of time Purged (min)

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
NO FLOW									

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
		Well has been found and is accessible without hazards. If no, explain in the comments section.							
		Well Pad Condition							
Sampling Parameters		Good: no visible cracks and is sloping							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO			Unsured: pad has been buried by site activities						
TPH-DRO		BTEX and naphthalene		Bolts in place					
O&G			Bolts are missing						
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Casing Condition					
TCL SVOCs			Casing is free from damage and visibly marked with the Well ID						
				Well Condition					
TAL Metals and Mercury (total)			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft						
TAL Metals and Mercury (dissolved)			_____ ft x _____ gal/ft = _____ (gal)						
Hexavalent Chromium			Well is structurally sound: not bent, broken, and no blockage identified						
PCB			Well is bent or broken but is able to be used						
Matrix Spike			Well is broken and is not able to be used						
Duplicate			Well is blocked and is not able to be used					X	
			Cap is present					X	
		Well permit is present							

Sampled By	Comments: NOT SAMPLED
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Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>2093-PCM</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u> </u>	Date: <u>8/12/22</u>
Depth to Water (ft): <u>10.89</u>	One Well Volume (gal): <u>1.41</u>
Product Thickness (ft): <u> </u>	Flow Rate (mL/min) <u>320</u>
Depth to Bottom (ft): <u>19.59</u>	Length of time Purged (min) <u>35</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1201	0.42	11.78	21.8	8.35	0.614	0.42	-136.5	5.47	
1206	0.85	11.84	21.7	9.16	0.752	0.29	-397.8	1.4	
1211	1.27	11.85	22.0	9.20	0.953	0.42	-539.0	10.26	
1216	1.69	11.86	21.7	10.65	1.123	0.43	-568.3	5.86	
1221	2.11	11.84	21.5	10.02	1.453	0.09	-500	4.57	
1226	2.54	11.84	21.8	11.02	1.490	0.05	-502.2	4.17	
1231	2.96		21.5	11.08	1.541	0.05	-501.7	3.95	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
2093-PCM	1235	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
		Well Pad Condition <input checked="" type="checkbox"/>	
Sampling Parameters		Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	<input checked="" type="checkbox"/>
TPH-DRO		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	
O&G			
Total Cyanide			
TCL SVOCs			
TAL Metals and Mercury (total)			
TAL Metals and Mercury (dissolved)			
Hexavalent Chromium			
PCB			
Matrix Spike			
Duplicate			

Well has been found and is accessible without hazards. If no, explain in the comments section.

Well Pad Condition

Good: no visible cracks and is sloping

Fair: some visible cracks and/or not sloping

Poor: heavily cracked

Unsure: pad has been buried by site activities

Bolts in place

Bolts are missing

Well Casing Condition

Casing is free from damage and visibly marked with the Well ID

Well Condition

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft

_____ ft x _____ gal/ft = _____ (gal)

Well is structurally sound: not bent, broken, and no blockage identified

Well is bent or broken but is able to be used

Well is broken and is not able to be used

Well is blocked and is not able to be used

Cap is present

Well permit is present

Sampled By: [Signature]

Comments:

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO182-MWI</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>8/11/22</u>
Depth to Water (ft): <u>7.00</u>	One Well Volume (gal): <u>7.41</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min): <u>308</u>
Depth to Bottom (ft): <u>53.55</u>	Length of time Purged (min): <u>40</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1415	0.4	8.79	20.5	11.44	2.602	0.15	-429.7	2.59	
1420	0.79	8.80	20.7	11.44	2.228	0.11	-392.1	2.65	
1425	1.19	8.8	20.7	11.14	2.624	0.63	-343.6	2.61	
1430	1.55	8.80	20.5	10.97	1.977	0.29	-358.7	2.36	
1435	1.98	8.80	20.4	10.69	1.287	0.11	-376.5	17.9	→*
1440	2.38	8.80	20.5	9.51	1.120	0.06	-326.3	4.86	
1445	2.77	8.80	20.6	9.43	1.110	0.10	-316.7	4.64	
1450	3.17	—	20.7	9.38	1.101	0.09	318.5	4.23	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection
<u>CO182-MWI</u>	<u>1455</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>
Sampling Parameters		Well Pad Condition
Parameter	Collected?	Good: no visible cracks and is sloping <input checked="" type="checkbox"/>
TCL-VOCs		Fair: some visible cracks and/or not sloping
TPH-GRO		Poor: heavily cracked
TPH-DRO		Unsafe: pad has been buried by site activities
O&G		Bolts in place
Total Cyanide		Bolts are missing
TCL SVOCs		Well Casing Condition
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>
TAL Metals and Mercury (dissolved)		Well Condition
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
PCB		_____ ft x _____ gal/ft = _____ (gal)
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>
Duplicates		Well is bent or broken but is able to be used
		Well is broken and is not able to be used
		Well is blocked and is not able to be used
		Cap is present
		Well permit is present <input checked="" type="checkbox"/>

Comments:

Sampled By: [Signature]

Observed black particles in discharge

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO 190 - MWS	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): —	Date: 8/12/22
Depth to Water (ft): 14.53	One Well Volume (gal): 1.5
Product Thickness (ft): —	Flow Rate (mL/min): 306
Depth to Bottom (ft): 23.40	Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1123	0.40	14.65	24.7	7.11	1.274	0.34	-98	6.82	
1128	0.79	14.65	24.9	7.18	1.225	0.39	-124.9	4.61	
1133	1.19	↓	25.0	7.18	1.230	0.41	-134.5	4.20	7
1138	1.59	↓	25.0	7.18	1.234	0.36	-139.2	4.18	
1143	1.95	↓	25.1	7.17	1.241	0.34	-144.5	3.11	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO 190 - MWS	1148	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters		Well Pad Condition	
Good: no visible cracks and is sloping <input checked="" type="checkbox"/>		Well Pad Condition	
Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Poor: heavily cracked	
TPH-GRO		Dissolved Zn and Cd	
TPH-DRO		Unsured: pad has been buried by site activities	
O&G		BTEX and naphthalene <input checked="" type="checkbox"/>	
Total Cyanide		Bolts in place	
TCL SVOCs		Bolts are missing	
TAL Metals and Mercury (total)		Well Casing Condition	
TAL Metals and Mercury (dissolved)		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
Hexavalent Chromium		Well Condition	
PCB		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Duplicate		Well is bent or broken but is able to be used	
Comments:		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present <input checked="" type="checkbox"/>	
Well permit is present <input checked="" type="checkbox"/>			

Sampled By:

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO195-MWS</u>	Project Name: COA Quarterly GW - August 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>8/2/22</u>
Depth to Water (ft): <u>13.97</u>	One Well Volume (gal): <u>3.95</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min): <u>326</u>
Depth to Bottom (ft): <u>38.20</u>	Length of time Purged (min): 35 <u>35</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1253	0.42	13.98	21.9	11.70	2.564	0.62	-37.6	63.5	
1258	0.85	13.98	21.6	11.72	2.568	0.20	-72.3	10.5	
1303	1.27	13.97	21.7	11.66	2.567	0.10	-80.9	10.12	
1308	1.69	13.97	21.8	11.73	2.582	0.06	-92.3	7.50	
1313	2.11	13.97	21.9	11.76	2.587	0.05	-99.1	7.48	
1318	2.54	n	21.7	11.70	2.602	0.03	-84.3	4.25	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO195-MWS	1323	Well has been found and is accessible without hazards. If no, explain in the comments section.	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	X
O&G			
Total Cyanide		VOC, SVOC, TAL	
TCL SVOCs			
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	
TAL Metals and Mercury (dissolved)			
Hexavalent Chromium			
PCB			
Matrix Spike			
Duplicate			

Well has been found and is accessible without hazards. If no, explain in the comments section. ✓

Well Pad Condition

Good: no visible cracks and is sloping ✓

Fair: some visible cracks and/or not sloping

Poor: heavily cracked

Unsure: pad has been buried by site activities

Bolts in place

Bolts are missing

Well Casing Condition

Casing is free from damage and visibly marked with the Well ID ✓

Well Condition

Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft

_____ ft x _____ gal/ft = _____ (gal)

Well is structurally sound: not bent, broken, and no blockage identified ✓

Well is bent or broken but is able to be used

Well is broken and is not able to be used

Well is blocked and is not able to be used

Cap is present ✓

Well permit is present ✓

Sampled By: XJP

Comments:

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C023-PZM008	Project Name: 21010210
Well Diameter (in): 2"	Project Number: EOA GW sampling
Depth to Product (ft): NP	Date: 12/01/22
Depth to Water (ft): 15.22	One Well Volume (gal): 1.14
Product Thickness (ft): —	Flow Rate (ml./min) 300
Depth to Bottom (ft): 22.19	Length of time Purged (min) 25

PURGING RECORD

Time	Volume Purged (gallons)	DIW (feet)	Temp (°C)	pH (su) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/l) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or ≤ 5	Comments
1330		15.23	15.76	10.48	2.745	3.00	-179.9	3.06	
1335		15.23	16.10	11.04	1.885	0.32	-202.9	2.69	
1340		15.23	16.14	11.10	1.726	0.28	-200.0	2.24	
1345		15.23	16.21	11.12	1.645	0.23	-209.9	1.82	
1350		15.23	16.18	11.14	1.689	0.24	-213.2	2.68	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C023-PZM008	1355	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	X
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride, Turbidity,	
PCB		TDS,	
Matrix Spike		Specific	
Duplicate		Conductance	
Well Casing Condition		Casing is free from damage and visibly marked with the Well ID ✓	
Well Condition		Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft 6.97 ft x 0.163 gal/ft = 1.14 (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified ✓	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present No	
Sampled By Lee	Comments:		

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C024-P2M007	Project Name: CDA GW sampling
Well Diameter (in): 2"	Project Number: 21010210
Depth to Product (ft): NP	Date: 12/01/22
Depth to Water (ft): 14.91	One Well Volume (gal): 1.19
Product Thickness (ft): —	Flow Rate (ml./min): 240
Depth to Bottom (ft): 22.20	Length of time Purged (min): 40

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (su) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/l) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or ± 5	Comments
1228		15.36	16.93	9.00	0.936	2.00	123.1	4.54	
1233		15.43	17.06	9.65	1.048	0.60	56.4	5.32	
1238		15.52	17.03	9.68	1.429	0.46	-4.7	3.27	
1243		15.57	16.95	9.65	1.723	0.36	-41.9	2.38	
1248		15.59	17.30	9.64	1.853	0.33	-52.4	2.50	
1253		15.59	17.14	9.64	1.917	0.33	-62.0	1.67	
1258		15.60	17.00	9.64	1.954	0.32	-60.7	2.46	
1303		15.61	17.15	9.63	1.976	0.28	-64.2	1.74	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection		
C024-P2M007	1305	Well has been found and is accessible without hazards. If no, explain in the comments section. X		
		Well Pad Condition		
Sampling Parameters		Good: no visible cracks and is sloping ✓		
Parameter	Collected?	Parameter	Collected?	
TCL-VOCs		Dissolved Zn and Cd	Fair: some visible cracks and/or not sloping	
TPH-GRO			Poor: heavily cracked	
TPH-DRO		BTEX and naphthalene	Unsure: pad has been buried by site activities	
O&G			Bolts in place as to do	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Bolts are missing	
TCL SVOCs			Well Casing Condition	
TAL Metals and Mercury (total)			Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (dissolved)			Well Condition	
Hexavalent Chromium			Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47	
PCB			7.29 ft x 0.163 gal/ft = 1.19 (gal)	
Matrix Spike			Well is structurally sound: not bent, broken, and no blockage identified ✓	
Duplicate			Well is bent or broken but is able to be used	
Sampled By LEP		Well is broken and is not able to be used		
		Well is blocked and is not able to be used		
		Cap is present ✓		
		Well permit is present ✓		
Comments:				

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO26-PZM007	Project Name: COA GW sampling
Well Diameter (in): 2"	Project Number: 21016210
Depth to Product (ft): NP	Date: 11/30/12
Depth to Water (ft): 15.78	One Well Volume (gal): 1.12
Product Thickness (ft): —	Flow Rate (ml/min) 200 → 120 → 90
Depth to Bottom (ft): 22.68	Length of time Purged (min) 33

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (su) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
11:02	0.42	17.04	15.99	10.97	2.053	1.20	-97.2	5.48	purge rate slowed
11:07	0.42	18.16	15.78	11.20	2.020	0.70	-105.2	5.16	
11:12	0.58	19.04	15.81	11.30	1.975	0.61	-94.1	5.36	
11:17	0.74	19.91	15.83	11.31	1.782	0.51	-83.3	5.44	
11:22	0.9	20.99	15.74	11.06	1.568	0.59	-56.1	6.04	purge rate slowed
11:27	1.06	21.26	15.30	10.74	1.479	0.79	-32.9	5.93	
11:32	—————			DRY	—————			—————	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection			
CO26-PZM007	1140	Well has been found and is accessible without hazards. If no, explain in the comments section.		<input checked="" type="checkbox"/>	
		Well Pad Condition			
Sampling Parameters		Good: no visible cracks and is sloping		<input checked="" type="checkbox"/>	
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO				Unsure: pad has been buried by site activities	
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Bolts in place	
O&G				Bolts are missing	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Casing Condition	
TCL SVOCs				Casing is free from damage and visibly marked with the Well ID	<input checked="" type="checkbox"/>
TAL Metals and Mercury (total)				Well Condition	
TAL Metals and Mercury (dissolved)				Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft 6.9 ft x 0.163 gal/ft = 1.12 (gal)	
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified	<input checked="" type="checkbox"/>
PCB				Well is bent or broken but is able to be used	
Matrix Spike Duplicate				Well is broken and is not able to be used	
				Well is blocked and is not able to be used	
				Cap is present	<input checked="" type="checkbox"/>
				Well permit is present	<input checked="" type="checkbox"/>
Sampled By LEP	Comments: well not stabilized prior to sampling				

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO27-P2M012</u>	Project Name: COA GW - Q4 2022
Well Diameter (in): <u>4.75</u>	Project Number: 20010210
Depth to Product (ft): <u>4.75</u>	Date: <u>12/7/22</u>
Depth to Water (ft): <u>-</u>	One Well Volume (gal): <u>200</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min) <u>300</u>
Depth to Bottom (ft): <u>17.42</u>	Length of time Purged (min) <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1342	1.4	4.73	15.45	11.41	1.383	0.32	238	0.75	
1347	1.79	4.43	15.70	11.43	1.385	0.23	242	0.68	
1352	1.19	↓	15.70	11.44	1.387	0.20	247	0.60	
1357	1.59		15.23	11.44	1.388	0.19	249	0.62	
1402	1.98		15.73	11.45	1.385	0.17	254	0.58	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO27-P2M012	1416	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	•
TPH-GRO			
TPH-DRO		BTEX and naphthalene	X
O&G			
Total Cyanide		Well Casing Condition	
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (total)		Well Condition	
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified ✓	
PCB		Well is bent or broken but is able to be used	
Matrix Spike		Well is broken and is not able to be used	
Duplicate		Well is blocked and is not able to be used	
Comments:		Cap is present ✓	
Sampled By: <u>ASB</u>		Well permit is present NO	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO27-P2M046	Project Name: COA GW - Q4 2022
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): —	Date: 12/7/22
Depth to Water (ft): 7.23	One Well Volume (gal): 716
Product Thickness (ft): —	Flow Rate (mL/min): 300
Depth to Bottom (ft): 51.13	Length of time Purged (min): 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u. ± 0.1)	Specific Conductance (ms/cm ± 3%)	Dissolved Oxygen (mg/L ± 0.3)	ORP (mV ± 10)	Turbidity (NTU) ± 10% or < 5	Comments
1255	.4	—	15.81	11.18	1453	0.32	-233	3.11	
1300	.79	7.23	15.80	11.29	1493	0.99	-252	2.33	
1305	1.19	7.24	15.78	11.29	1489	0.24	-252	2.30	7
1310	1.59	7.24	15.76	11.29	1489	0.79	243	2.59	7
1315	1.98	7.24	15.66	11.30	1486	0.20	253	2.28	7
1320	2.38	—	15.67	11.31	1486	0.17	249	2.41	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO27-P2M046	1325	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping ✓	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsure: pad has been buried by site activities	
O&G		Bolts in place	
Total Cyanide		Bolts are missing	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB		Well is structurally sound: not bent, broken, and no blockage identified ✓	
Matrix Spike Duplicate		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present NO	
		Well permit is present	
Sampled By: [Signature]		Comments:	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO 30-12m 015	Project Name: COA GW - Q4 2022
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): 12.25	Date: 12/01/22
Depth to Water (ft): 12.25	One Well Volume (gal): 255
Product Thickness (ft): 0	Flow Rate (mL/min): 100
Depth to Bottom (ft): 27.67	Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
11:38	.53	—	15.00	11.26	2.36	0.50	-152.7	4.89	
11:43	1.06	12.25	14.47	11.54	2.247	0.34	-1234	11.1	
11:48	1.59	17.25	14.27	11.62	2.241	0.33	145.5	6.44	
11:53	2.11		14.78	11.72	2.268	0.27	-152.9	9.82	?
11:58	2.64		14.78	11.77	2.269	0.25	-162.0	9.39	?
12:03	3.17		14.74	11.87	2.265	0.24	-167.8	9.83	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection		
CO 30-12m 015	1208	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓		
		Well Pad Condition		
Sampling Parameters		Good: no visible cracks and is sloping		
Parameter	Collected?	Parameter	Collected?	
TCL-VOCs		Dissolved Zn and Cd		
TPH-GRO			Fair: some visible cracks and/or not sloping	
TPH-DRO		BTEX and naphthalene	Poor: heavily cracked	
O&G			Unsure: pad has been buried by site activities ✓	
Total Cyanide		X	Bolts in place	
TCL SVOCs			Bolts are missing	
TAL Metals and Mercury (total)			Well Casing Condition	
TAL Metals and Mercury (dissolved)			Casing is free from damage and visibly marked with the Well ID ✓	
Hexavalent Chromium			Well Condition	
PCB			Casing Volume 1" ID = 0.041 gal ft - 2" ID = 0.163 gal ft - 4" ID = 0.653 gal ft - 6" ID = 1.47 gal ft	
Matrix Spike Duplicate			Specific Conductance	
Comments:			Well is structurally sound: not bent, broken, and no blockage identified ✓	
			Well is bent or broken but is able to be used	
			Well is broken and is not able to be used	
		Well is blocked and is not able to be used		
Sampled By: [Signature]		Cap is present ✓		
		Well permit is present No		

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C036-P2-008	Project Name: COA GW - Q4 2022
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): -	Date: 12/7/22
Depth to Water (ft): 6.69	One Well Volume (gal): 122
Product Thickness (ft): -	Flow Rate (mL/min): 300
Depth to Bottom (ft): 14.2	Length of time Purged (min): 39

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0935	.4	7.07	16.62	10.92	1.966	0.54	58.7	6.43	
0940	.79	7.07	16.51	11.11	1.929	0.41	71.8	3.07	
0945	1.19	7.11	16.21	11.20	1.892	0.39	115.7	2.52)
0950	1.59	-	16.23	11.25	1.849	0.41	35.8	2.84	
0955	1.98	7.15	16.23	11.27	1.858	0.41	3.2	3.26	7
1000	2.38	7.15	16.20	11.28	1.855	0.41	8.3	2.84	7
1005	2.77	-	16.21	11.30	1.850	0.40	14.9	2.08	7

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection		
C036-P2-008	1010	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓		
		Well Pad Condition		
Sampling Parameters		Good: no visible cracks and is sloping		
Parameter	Collected?	Parameter	Collected?	
TCL-VOCs		Dissolved Zn and Cd	Fair: some visible cracks and/or not sloping	
TPH-GRO			Poor: heavily cracked	
TPH-DRO		BTEX and naphthalene	Unsure: pad has been buried by site activities ✓	
O&G			Bolts in place	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Bolts are missing	
TCL SVOCs			Well Casing Condition	
TAL Metals and Mercury (total)			Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (dissolved)			Well Condition	
Hexavalent Chromium			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB			Well is structurally sound: not bent, broken, and no blockage identified ✓	
Matrix Spike			Well is bent or broken but is able to be used	
Duplicate			Well is broken and is not able to be used	
			Well is blocked and is not able to be used	
			Cap is present ✓	
		Well permit is present NS		

Sampled By: *JDF* Comments: _____

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO36-PLN 043</u>	Project Name: COA GW - Q4 2022
Well Diameter (in): <u>2"</u>	Project Number: 20010210
Depth to Product (ft): <u>7.27</u>	Date: <u>12/6/22</u>
Depth to Water (ft): <u>7.27</u>	One Well Volume (gal): <u>4.5</u>
Product Thickness (ft):	Flow Rate (mL/min) <u>300</u>
Depth to Bottom (ft): <u>52.09</u>	Length of time Purged (min) <u>70</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1500	0.4	7.85	14.17	10.54	1.513	1.360	-57	5.34	
1505	0.79	7.70	15.08	11.04	1.923	0.47	107	4.70	
1510	1.19	7.90	15.08	11.05	2.535	0.31	186	2.81	
1515	1.58	↓	14.96	11.79	2.724	0.28	91	4.45	
1520	1.97		14.92	11.90	3.007	0.26	200	3.50	
1525	2.38		15.09	11.90	3.292	0.25	199	3.60	7
1530	2.77		15.05	11.90	3.285	0.25	202	4.00	
1535	3.17		15.02	11.90	3.306	0.24	201	3.75	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO36-PLN 043 CO36-PLN 043	1540	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsure: pad has been buried by site activities <input checked="" type="checkbox"/>	
O&G		Bolts in place	
Total Cyanide		Bolts are missing	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Matrix Spike		Well is bent or broken but is able to be used	
Duplicate		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	
Sampled By	Comments:		

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C037-121038</u>	Project Name: COA GW - Q4 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>12.90</u>	Date: <u>12/17/22</u>
Depth to Water (ft): <u>12.90</u>	One Well Volume (gal): <u>6.1</u>
Product Thickness (ft): <u>12.90</u>	Flow Rate (mL/min): <u>320</u>
Depth to Bottom (ft): <u>49.85</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1452	3.7	12.95	15.74	11.86	1.850	0.43	-280	1.35	
1457	4.4	12.95	15.71	11.88	1.859	0.32	-294	1.23	
1502	1.1	12.95	15.64	11.90	1.865	0.25	-292	1.20	7
1507	1.48	12.45	15.71	11.90	1.881	0.24	-293	1.02	✓
1512	1.85	—	15.66	11.92	1.914	0.23	-295	0.89	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
<u>C037-121038</u>	<u>1517</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓							
Sampling Parameters		Well Pad Condition							
Parameter	Collected?	Parameter	Collected?	Good: no visible cracks and is sloping					
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping					
TPH-GRO		BTEX and naphthalene	✓	Poor: heavily cracked					
TPH-DRO				Unsure: pad has been buried by site activities ✓					
O&G		Bolts in place							
Total Cyanide		Bolts are missing							
TCL SVOCs		Well Casing Condition							
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID ✓							
TAL Metals and Mercury (dissolved)		Well Condition							
Hexavalent Chromium		Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft							
PCB		ft x gal/ft = (gal)							
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified ✓							
Duplicate		Well is bent or broken but is able to be used							
		Well is broken and is not able to be used							
		Well is blocked and is not able to be used							
		Cap is present							
		Well permit is present ✓							
Sampled By	Comments:								
<u>[Signature]</u>									

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: W-038-P2M006	Project Name: COA GW - Q4 2022
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): -	Date: 12/7/22
Depth to Water (ft): 6.32	One Well Volume (gal): 1.53
Product Thickness (ft): -	Flow Rate (mL/min): 300
Depth to Bottom (ft): 15.73	Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1200	.4		15.84	9.71	1.877	0.21	-223	5.63	
1205	.79	6.59	15.73	10.01	1.892	0.17	-229	4.57	
1210	1.19	6.40	15.63	10.03	1.892	0.18	-232	4.38	
1215	1.59	6.40	15.51	10.11	1.888	0.15	-234	5.98	7
1220	1.90	6.40	15.49	10.12	1.886	0.14	-233	3.44	
1220	2.38	-	15.48	10.12	1.887	0.14	-235	3.02	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C038-P2M006	1225	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsure: pad has been buried by site activities ✓	
O&G		Bolts in place	
Total Cyanide		Bolts are missing	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB		Well is structurally sound: not bent, broken, and no blockage identified ✓	
Matrix Spike		Well is bent or broken but is able to be used	
Duplicate		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present NO	
Comments:			
Sampled By: JAR			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO38-12M043	Project Name: COA GW - Q4 2022
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): —	Date: 12/7/22
Depth to Water (ft): 6.99	One Well Volume (gal): 6.99
Product Thickness (ft): —	Flow Rate (mL/min): 320
Depth to Bottom (ft): 49.63	Length of time Purged (min): 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1050	.42	—	15.42	9.38	1402	0.94	-83	5.12	
1055	.85	8.29	15.77	8.80	1.410	0.66	-120	4.19	
1100	1.27	8.63	15.95	8.34	1.415	0.52	-105	3.69	
1105	1.69	8.77	16.00	8.09	1.416	0.26	-96	3.76	7
1110	2.11	8.80	16.01	8.05	1.418	0.24	-101	4.06	
1115	2.54	—	15.97	7.98	1.414	0.22	-97	3.34	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection
CO38-12M043	1120	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓
Sampling Parameters		Well Pad Condition
Parameter	Collected?	Good: no visible cracks and is sloping
TCL-VOCs		Fair: some visible cracks and/or not sloping
TPH-GRO		Poor: heavily cracked
TPH-DRO		Unsure: pad has been buried by site activities ✓
O&G		Bolts in place
Total Cyanide		Bolts are missing
TCL SVOCs		Well Casing Condition
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID ✓
TAL Metals and Mercury (dissolved)		Well Condition
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft
PCB		ft x gal/ft = (gal)
Matrix Spike		Well is structurally sound: not bent, broken, and no blockage identified ✓
Duplicate		Well is bent or broken but is able to be used
		Well is broken and is not able to be used
		Well is blocked and is not able to be used
		Cap is present ✓
		Well permit is present NO
Sampled By		Comments:

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CD 39-PRM 007</u>	Project Name: COA GW - Q4 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>12/8/22</u>
Depth to Water (ft): <u>6.60</u>	One Well Volume (gal): <u>184</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min): <u>280</u>
Depth to Bottom (ft): <u>17.92</u>	Length of time Purged (min): <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1048	.74	7.89	16.06	11.24	2.093	0.19	-258	7.23	
1053	.74	7.92	16.27	11.25	2.105	0.26	-262	5.74	
1058	1.1	7.95	15.83	11.22	2.072	0.26	-263	4.07	2
1103	1.48	7.95	15.79	11.21	2.062	0.26	-265	3.77	3
1108	1.85	—	15.74	11.20	2.054	0.25	-257	4.95	3 ✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>CD 39-PRM 007</u>	<u>1113</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsure: pad has been buried by site activities ✓	
O&G		Bolts in place	
Total Cyanide		Bolts are missing	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB		Well is structurally sound: not bent, broken, and no blockage identified ✓	
Matrix Spike		Well is bent or broken but is able to be used	
Duplicate		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present N/A	
Comments:			
Sampled By: <u>[Signature]</u>			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO39-12A04Z	Project Name: COA GW - Q4 2022
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): —	Date: 12/8/22
Depth to Water (ft): 8.34	One Well Volume (gal): 6.13
Product Thickness (ft): —	Flow Rate (mL/min): 300
Depth to Bottom (ft): 45.97	Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1005	.4	8.93	15.82	11.27	2.129	0.97	-246	1.04	
1010	1.39	8.44	15.86	11.44	2.156	0.56	-256	0.81	7
1015	1.19	8.94	15.91	11.52	2.155	0.92	-260	0.72	
1020	1.59	8.45	15.94	11.54	2.153	0.38	-257	0.74	
1025	1.98	—	15.97	11.58	2.150	0.30	-267	0.65	1/2

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO39-12A04Z	1030	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO		BTEX and naphthalene	<input checked="" type="checkbox"/>
TPH-DRO		VOC, SVOC, TAL	
O&G		Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	
Total Cyanide		Well Casing Condition	
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)		Well Condition	
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
PCB		Well is bent or broken but is able to be used	
Matrix Spike		Well is broken and is not able to be used	
Duplicate		Well is blocked and is not able to be used	
		Cap is present <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	

Sampled By: Comments: _____

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C040-P2M008</u>	Project Name: COA GW - Q4 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>12/8/22</u>
Depth to Water (ft): <u>7.07</u>	One Well Volume (gal): <u>1.74</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min): <u>300</u>
Depth to Bottom (ft): <u>17.02</u>	Length of time Purged (min): <u>40</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
11:40	.4		15.76	9.62	2.090	0.61	-224	27.8	
11:45	.79	7.35	15.01	9.60	2.024	0.35	-273	9.5	
11:50	1.19	7.35	15.54	9.92	2.001	0.10	-285	8.66	
11:55	1.59	7.35	15.56	10.08	2.006	0.38	-302	6.20	
12:00	1.98		15.65	10.27	2.022	0.79	-309	3.12	
12:05	2.38		15.78	10.93	2.049	0.22	-318	4.71	
12:10	2.77		15.64	10.48	2.053	0.23	-323	5.05	
12:15	3.17		15.62	10.51	2.057	0.22	-325	4.90	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C040-P2M008</u>	<u>1220</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsure: pad has been buried by site activities	
O&G		Bolts in place	
Total Cyanide		Bolts are missing	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
PCB		_____ ft x _____ gal/ft = _____ (gal)	
Matrix Spike Duplicate		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present	
		Well permit is present <input checked="" type="checkbox"/>	
Sampled By	Comments:		
<u>[Signature]</u>			

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO41-PTA001</u>	Project Name: COA GW - Q4 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>-</u>	Date: <u>12/8/22</u>
Depth to Water (ft): <u>13.07</u>	One Well Volume (gal): <u>350</u> : <u>49</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min): <u>280</u>
Depth to Bottom (ft): <u>16.05</u>	Length of time Purged (min): <u>35</u> <u>11/12</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1500	0.77	13.35	13.03	8.27	0.687	0.76	-192	6.95	
1505	0.74		12.90	8.11	0.655	0.46	-206	5.95	
1510	1.11	13.40	12.86	8.05	0.636	0.40	-221	5.91	
1515	1.48	13.43	12.81	8.03	0.618	0.36	-230	5.59	
1520	1.85	13.43	12.80	8.03	0.608	0.35	-234	5.17	
1525	2.22	13.44	12.78	8.03	0.592	0.32	-237	4.99	?
1530	2.59		12.75	8.09	0.582	0.35	-236	2.02	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection			
CO41-PTA001	1535	Well has been found and is accessible without hazards. If no, explain in the comments section.			
		Well Pad Condition			
Sampling Parameters		Good: no visible cracks and is sloping			
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO				Unsure: pad has been buried by site activities	
TPH-DRO		BTEX and naphthalene	X	Bolts in place	
O&G				Bolts are missing	
Total Cyanide		Well Casing Condition			
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID			
TAL Metals and Mercury (total)		Well Condition			
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)			
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified			
PCB		Well is bent or broken but is able to be used			
Matrix Spike		Well is broken and is not able to be used			
Duplicate		Well is blocked and is not able to be used			
		Cap is present			
		Well permit is present			

Sampled By: [Signature] Comments: _____

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: 2041-12M036	Project Name: COA GW - Q4 2022
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): ~	Date: 12/8/22
Depth to Water (ft): 13.75	One Well Volume (gal): 5.99
Product Thickness (ft): ~	Flow Rate (mL/min): 300
Depth to Bottom (ft): 50.05	Length of time Purged (min): 25

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1340	0.4	13.80	16.32	10.83	1.512	1.02	-295	6.52	
1345	0.79	13.80	16.60	10.94	1.577	0.36	-260	9.0	
1350	1.19	13.80	16.71	10.95	1.579	0.32	-292	8.9	
1355	1.59		16.71	10.96	1.586	0.27	-275	11.74	
1400	1.98		16.64	10.97	1.587	0.25	-297	10.41	
1405	2.28		16.64	10.97	1.589	0.25	-299	9.77	
1410	2.77		16.60	10.98	1.590	0.24	-306	10.04	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection							
2041-12M036	14:15	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>							
		Well Pad Condition							
Sampling Parameters		Good: no visible cracks and is sloping							
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Unsure: pad has been buried by site activities					
TPH-DRO				Bolts in place					
O&G		Bolts are missing							
Total Cyanide		Well Casing Condition							
TCL SVOCs		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>						
TAL Metals and Mercury (total)			Well Condition						
TAL Metals and Mercury (dissolved)			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)						
Hexavalent Chromium			Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>						
PCB			Well is bent or broken but is able to be used						
Matrix Spike			Well is broken and is not able to be used						
Duplicate			Well is blocked and is not able to be used						
			Cap is present <input checked="" type="checkbox"/>						
		Well permit is present <input checked="" type="checkbox"/>							
Sampled By	Comments:								

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>C042-12m004</u>	Project Name: COA GW - Q4 2022
Well Diameter (in): <u>2</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>7.85</u>	Date: <u>11/8/02</u>
Depth to Water (ft): <u>7.85</u>	One Well Volume (gal): <u>14</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min) <u>300</u>
Depth to Bottom (ft): <u>16.35</u>	Length of time Purged (min) <u>35</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1237	.4	8.89	16.30	8.35	1.082	0.51	-137	7.20	
1242	.79	9.09	15.98	8.10	1.071	0.80	-128	2.86	
1247	1.19	9.30	15.85	8.01	1.064	1.05	-123	4.30	
1252	2.59	9.30	15.74	7.91	1.056	1.21	-130	2.01	
1257	1.98	10.37	15.75	7.89	1.052	1.12	-144	1.96	
1302	2.38	10.83	15.79	7.88	1.049	1.01	-146	1.80 1.80	7
1307	2.77	-	15.90	7.89	1.046	0.88	-150	1.67	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>C042-12m004</u>	<u>1312</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsure: pad has been buried by site activities ✓	
O&G		Bolts in place	
Total Cyanide		Bolts are missing	
TCL SVOCs		Well Casing Condition	
TAL Metals and Mercury (total)		Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (dissolved)		Well Condition	
Hexavalent Chromium		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB		Well is structurally sound: not bent, broken, and no blockage identified ✓	
Matrix Spike Duplicate		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present NO	

Sampled By: [Signature] Comments:

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>COSS-P2M000</u>	Project Name: <u>COA GW Sampling</u>
Well Diameter (in): <u>2"</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NP</u>	Date: <u>12/02/22</u>
Depth to Water (ft): <u>14.72</u>	One Well Volume (gal): <u>0.4</u>
Product Thickness (ft): <u>-</u>	Flow Rate (ml/min): <u>120</u>
Depth to Bottom (ft): <u>17.20</u>	Length of time Purged (min): <u>10</u>

PURGING RECORD

Time	Volume Purged (gallons)	DIW (feet)	Temp (°C)	pH (su) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1119	0.16	15.91	13.91	11.21	1.866	3.48	108.9	4.73	
1124	————— DRY —————								

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection			
<u>COSS-P2M000</u>	<u>1140</u>	Well has been found and is accessible without hazards. If no, explain in the comments section.		<input checked="" type="checkbox"/>	
		Well Pad Condition			
Sampling Parameters		Good: no visible cracks and is sloping			
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping	
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked	
TPH-GRO			Unsure: pad has been buried by site activities	<input checked="" type="checkbox"/>	
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Bolts in place	
O&G			Bolts are missing	<input type="checkbox"/> no tech	
Total Cyanide		VOC,		Well Casing Condition	
TCL SVOCs		SVOC, TAL		Casing is free from damage and visibly marked with the Well ID	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,		Well Condition	
TAL Metals and Mercury (dissolved)		Ammonia, COD,		Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft	
Hexavalent Chromium		Alkalinity, Chloride, Turbidity,		<u>2.18</u> ft x <u>0.163</u> gal/ft = <u>0.4</u> (gal)	
PCB		TDS,		Well is structurally sound: not bent, broken, and no blockage identified	
Matrix Spike		Specific Conductance		Well is bent or broken but is able to be used	
Duplicate				Well is broken and is not able to be used	
Sampled By <u>LEP</u>		Comments: <u>well purged dry prior to stabilization</u>		Well is blocked and is not able to be used	
				Cap is present	
				Well permit is present	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>COS6-PZPO01</u>	Project Name: <u>COA GW Sampling</u>
Well Diameter (in): <u>2"</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NP</u>	Date: <u>12/02/22</u>
Depth to Water (ft): <u>15.56</u>	One Well Volume (gal): <u>0.59</u>
Product Thickness (ft): <u>-</u>	Flow Rate (ml/min): <u>200</u>
Depth to Bottom (ft): <u>19.15</u>	Length of time Purged (min): <u>20</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (SU) ± 0.1	Specific Conductance (µs/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or ± 5	Comments
1221	0.26	15.56	14.47	11.43	1.888	5.15	-1.4	3.98	
1226	0.52	15.56	14.82	11.43	1.922	1.00	-19.3	4.04	}
1231	0.78	15.56	15.10	11.40	1.937	0.59	-28.1	2.14	
1236	1.04	15.56	15.33	11.39	1.942	0.59	-28.4	2.51	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection		
<u>COS6-PZPO01</u>	<u>1240</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓		
		Well Pad Condition		
Sampling Parameters		Good: no visible cracks and is sloping		
Parameter	Collected?	Parameter	Collected?	
TCL-VOCs		Dissolved Zn and Cd		
TPH-GRO			Fair: some visible cracks and/or not sloping	
TPH-DRO		BTEX and naphthalene		
O&G			Poor: heavily cracked	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	X	
TCL SVOCs			Unsure: pad has been buried by site activities ✓	
TAL Metals and Mercury (total)			Bolts in place no inch	
TAL Metals and Mercury (dissolved)			Bolts are missing	
Hexavalent Chromium			Well Casing Condition	
PCB			Casing is free from damage and visibly marked with the Well ID ✓	
Matrix Spike			Well Condition	
Duplicate			Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft <u>3.59</u> gal ± <u>0.163</u> gal ± <u>0.59</u> (gal)	
Comments:			Well is structurally sound: not bent, broken, and no blockage identified ✓	
			Well is bent or broken but is able to be used	
		Well is broken and is not able to be used		
		Well is blocked and is not able to be used		
Sampled By <u>LEP</u>		Cap is present ✓		
		Well permit is present no		

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists


Well Number: C057-PZP002	Project Name: EGAGW Sampling
Well Diameter (in): 2"	Project Number: 21010210
Depth to Product (ft): NP	Date: 1/30/22
Depth to Water (ft): 16.14	One Well Volume (gal): 0.29
Product Thickness (ft): —	Flow Rate (ml/min) 120
Depth to Bottom (ft): 17.94	Length of time Purged (min) 9

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (su) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
14:48	0.16	16.57	16.70	10.73	1.011	6.23	39.6	202	
14:53	—	—	—	DRY	—	—	—	—	
14:58									
15:03									

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C057-PZP002	1515	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	X
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD, Alkalinity,	
Hexavalent Chromium		Chloride, Turbidity,	
PCB		TDS,	
Matrix Spike		Specific	
Duplicate		Conductance	
		Well Casing Condition	
		Casing is free from damage and visibly marked with the Well ID ✓	
		Well Condition	
		Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft 1.8 ft x 0.163 gal/ft = 0.29 (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified ✓	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present NO	
Sampled By LEP	Comments: - well purged dry prior to stabilization		

<h2 style="margin: 0;">Low Flow Sampling Purge Log</h2>	 <p>ARM Group Enterprises LLC Engineers and Scientists</p>
Well Number: C058-PZM001	Project Name: CoA GW Sampling
Well Diameter (in): 2"	Project Number: 21010210
Depth to Product (ft): NP	Date: 11/30/22
Depth to Water (ft): 13.92'	One Well Volume (gal): 0.88
Product Thickness (ft): —	Flow Rate (ml/min) 120 → 80
Depth to Bottom (ft): 19.29'	Length of time Purged (min) 89

PURGING RECORD										
Time	Volume Purged (gallons)	D1W (feet)	Temp (°C)	pH (su) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/l) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or ≤ 5	Comments	
1218	0.16	14.21	14.66	11.41	1.748	2.90	-19.4	4.50		
1223	0.32	14.40	15.00	11.61	1.573	0.68	-18.5	3.92		
1228	0.48	14.58	15.10	11.51	1.160	0.82	2.2	2.98		
1233	0.64	14.95	15.00	11.25	0.983	0.92	18.8	2.20		
1238	0.8	15.27	14.95	10.97	0.798	0.86	27.3	2.32		
1243	0.96	15.87	14.95	10.78	0.762	0.89	36.2	2.11		Flow rate showed to help stabilize
1248	1.06	16.05	14.58	10.74	0.888	0.94	29.4	1.89		
1253	1.16	16.16	14.43	10.93	0.897	1.01	17.0	1.72		
1258	1.26	16.25	14.44	10.88	0.987	0.99	10.3	1.87		
1303	1.36	16.35	14.51	11.19	0.864	0.87	5.8	1.89		

SAMPLE RECORD AND WELL DETAILS										
Sample ID		Time Collected		Well Inspection						
C058-PZM001		1400		Well has been found and is accessible without hazards. If no, explain in the comments section.						✓
				Well Pad Condition						
Sampling Parameters				Good: no visible cracks and is sloping						✓
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping						
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked						
TPH-GRO					Unsure: pad has been buried by site activities					
TPH-DRO		BTEX and naphthalene	X	Bolts in place						no lock
O&G					Bolts are missing					
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Casing Condition						
TCL SVOCs				Casing is free from damage and visibly marked with the Well ID						✓
TAL Metals and Mercury (total)				Well Condition						
TAL Metals and Mercury (dissolved)				Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft						
Hexavalent Chromium				5.37 ft x 0.163 gal/ft = 0.875 (gal)						
PCB				Well is structurally sound: not bent, broken, and no blockage identified						✓
Matrix Spike				Well is bent or broken but is able to be used						
Duplicate				Well is broken and is not able to be used						
				Well is blocked and is not able to be used						
				Cap is present						✓
			Well permit is present						no	
Sampled By LEP		Comments: - well not stabilized prior to sampling, ran dry								

<h2 style="margin: 0;">Low Flow Sampling Purge Log</h2>	 <p style="margin: 0;">ARM Group Enterprises LLC Engineers and Scientists</p>
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Well Number: C058-PZMOD	Project Name: COA-GW Sampling
Well Diameter (in): 2"	Project Number: 21010210
Depth to Product (ft): NP	Date: 11/30/22
Depth to Water (ft): 13.92	One Well Volume (gal): 0.88
Product Thickness (ft): —	Flow Rate (ml/min) 80 → 160 → 240
Depth to Bottom (ft): 19.29	Length of time Purged (min) 89

PURGING RECORD

Time	Volume Purged (gallons)	DIW (feet)	Temp (°C)	pH (SU) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1308	1.46	16.45	14.64	11.28	1.156	0.89	1.3	1.57	
1313	1.56	16.55	14.70	11.35	1.238	0.84	-3.0	1.74	Flow rate increased to help stabilize
1318	1.76	17.01	15.38	11.44	1.330	0.63	-6.5	1.92	
1323	1.96	17.30	15.85	11.47	1.424	0.58	-10.0	1.87	increased speed
1328	2.38	17.77	16.11	11.51	1.520	0.55	-17.3	1.64	
1333	2.70	18.16	16.37	11.54	1.634	0.5	-22.7	1.85	
1338	3.02	18.58	16.46	11.60	1.754	0.55	-27.9	1.50	
1343				DRY					

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
C058-PZMOD	1400	Well has been found and is accessible without hazards. If no, explain in the comments section.	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	X
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride,	
PCB		Turbidity,	
Matrix Spike		TDS,	
Duplicate		Specific Conductance	
Well Casing Condition		Casing is free from damage and visibly marked with the Well ID	
Well Condition		Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present	
		Well permit is present	
Sampled By LEP	Comments: - well not stabilized prior to sampling, ran dry		

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>0059-P2M001</u>	Project Name: <u>COA GW Sampling</u>
Well Diameter (in): <u>2"</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NP</u>	Date: <u>12/01/22</u>
Depth to Water (ft): <u>16.23</u>	One Well Volume (gal): <u>0.45</u>
Product Thickness (ft): <u>-</u>	Flow Rate (ml/min) <u>180</u>
Depth to Bottom (ft): <u>18.02</u>	Length of time Purged (min) <u>30</u>

PURGING RECORD

Time	Volume Purged (gallons)	DIW (feet)	Temp (°C)	pH (su) ± 0.1	Specific Conductance (mc/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1430		16.26	14.41	10.09	2.005	5.00	-68.5	2.02	
1435		16.25	14.73	9.60	1.974	3.34	-54.0	1.70	
1440		16.26	14.88	9.43	1.895	2.51	-16.0	2.19	
1445		16.26	14.92	9.37	1.855	2.18	12.6	1.35	>
1450		16.26	15.06	9.33	1.842	2.10	22.2	1.62	
1455		16.26	15.12	9.32	1.830	2.06	27.8	1.41	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection					
<u>0059-P2M001</u>	<u>1500</u>	Well has been found and is accessible without hazards. If no, explain in the comments section.		<input checked="" type="checkbox"/>			
		Well Pad Condition					
Sampling Parameters		Good: no visible cracks and is sloping					
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping			
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked			
TPH-GRO				Unsure: pad has been buried by site activities			
TPH-DRO		BTEX and naphthalene	X	Bolts in place			
O&G				Bolts are missing	no lock		
Total Cyanide		VOC, SVOC, TAL, Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Casing Condition			
TCL SVOCs				Casing is free from damage and visibly marked with the Well ID		<input checked="" type="checkbox"/>	
TAL Metals and Mercury (total)				Well Condition			
TAL Metals and Mercury (dissolved)				Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft			
Hexavalent Chromium				2.79 ft x 0.163 gal/ft = 0.45 (gal)			
PCB				Well is structurally sound: not bent, broken, and no blockage identified			<input checked="" type="checkbox"/>
Matrix Spike				Well is bent or broken but is able to be used			
Duplicate				Well is broken and is not able to be used			
				Well is blocked and is not able to be used			
				Cap is present			<input checked="" type="checkbox"/>
			Well permit is present			no	
Sampled By	Comments:						
<u>LEP</u>	* label needs to be rewritten, failed on casing						

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: C0600-P2P001	Project Name: CDA GW Sampling
Well Diameter (in): 2"	Project Number: 2610210
Depth to Product (ft): NP	Date: 11/30/22
Depth to Water (ft): NW	One Well Volume (gal): —
Product Thickness (ft): —	Flow Rate (ml/min): —
Depth to Bottom (ft): 14.87'	Length of time Purged (min): —

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (SU) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or ≤ 5	Comments
<div style="position: relative; width: 100%; height: 100%;"> </div>									

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection								
		Well has been found and is accessible without hazards. If no, explain in the comments section.								
		Well Pad Condition								
Sampling Parameters		Good: no visible cracks and is sloping								
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping						
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked						
TPH-GRO				Unsure: pad has been buried by site activities						
TPH-DRO		BTEX and naphthalene		Bolts in place						
O&G				Bolts are missing						
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Casing Condition						
TCL SVOCs				Casing is free from damage and visibly marked with the Well ID						
TAL Metals and Mercury (total)				Well Condition						
TAL Metals and Mercury (dissolved)				Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft						
Hexavalent Chromium				_____ ft x _____ gal/ft = _____ (gal)						
PCB				Well is structurally sound: not bent, broken, and no blockage identified						
Matrix Spike				Well is bent or broken but is able to be used						
Duplicate				Well is broken and is not able to be used						
				Well is blocked and is not able to be used						
				Cap is present						
				Well permit is present						

Comments:

No water in well, no sample

Sampled By _____

<h2 style="margin: 0;">Low Flow Sampling Purge Log</h2>	 <p>ARM Group Enterprises LLC Engineers and Scientists</p>
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Well Number: CO93-P2M	Project Name: COA GW - Q4 2022
Well Diameter (in):	Project Number: 20010210
Depth to Product (ft): NP	Date: 12/19/22
Depth to Water (ft): 10.25	One Well Volume (gal): 1.51
Product Thickness (ft): —	Flow Rate (mL/min) 240 → 210
Depth to Bottom (ft): 19.53	Length of time Purged (min) 85

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1031	0.32	11.00	14.84	6.57	0.469	1.92	-60.2	2.40	
1036	0.64	11.05	15.06	7.12	0.477	1.04	-733.7	3.30	
1041	0.96	11.09	15.49	8.30	0.585	0.83	-2325	3.54	
1046	1.28	11.11	15.59	9.89	0.756	0.58	-312.9	3.14	
1051	1.60	11.11	15.57	10.63	0.933	0.48	-289.9	3.36	
1056	1.92	11.12	15.64	10.83	1.016	0.52	-309.9	4.47	
1101	2.24	11.12	15.56	10.92	1.086	0.47	-289.9	5.01	
1106	2.56	11.14	15.51	10.99	1.116	0.44	-300.0	5.80	
1111	2.88	11.07	15.71	11.07	1.151	0.45	-275.0	6.54	slowed to help stabilize
1116	2.6	11.00	15.42	11.15	1.231	0.46	-318.3	6.96	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection				
CO93-P2M	1151	Well has been found and is accessible without hazards. If no, explain in the comments section.		<input checked="" type="checkbox"/>		
		Well Pad Condition				
Sampling Parameters		Good: no visible cracks and is sloping		<input checked="" type="checkbox"/> LEP		
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping		
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked		
TPH-GRO				Unsafe: pad has been buried by site activities		
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Bolts in place		
O&G				Bolts are missing	no lock	
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Casing Condition		
TCL SVOCs				Casing is free from damage and visibly marked with the Well ID		<input checked="" type="checkbox"/>
TAL Metals and Mercury (total)				Well Condition		
TAL Metals and Mercury (dissolved)				Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft 7.28 ft x 0.163 gal/ft = 1.51 (gal)		
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified		<input checked="" type="checkbox"/>
PCB				Well is bent or broken but is able to be used		
Matrix Spike				Well is broken and is not able to be used		
Duplicate				Well is blocked and is not able to be used		
				Cap is present		<input checked="" type="checkbox"/>
				Well permit is present		<input checked="" type="checkbox"/>

Sampled By: LEP Comments: *-strong odor, clear in bucket*

<h2 style="margin: 0;">Low Flow Sampling Purge Log</h2>	 <p>ARM Group Enterprises LLC Engineers and Scientists</p>
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Well Number: CO93-P2M	Project Name: COA GW-Q4 2022
Well Diameter (in):	Project Number: 21010210
Depth to Product (ft): NP	Date: 12/19/22
Depth to Water (ft): 10.25	One Well Volume (gal): 1.51
Product Thickness (ft): —	Flow Rate (ml/min) 210
Depth to Bottom (ft): 19.53	Length of time Purged (min) 85

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (su) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/l) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1121	2.88	10.99	15.48	11.19	1.250	0.43	-280.6	6.42	
1126	3.16	10.99	15.61	11.22	1.247	0.45	-285.6	6.16	
1131	3.44	10.98	15.63	11.24	1.252	0.46	-309.5	8.75	
1136	3.72	10.99	15.64	11.26	1.246	0.48	-314.0	9.29	
1141	4	10.99	15.92	11.26	1.246	0.44	-349.0	9.92	
1146	4.28	10.99	15.74	11.28	1.255	0.45	-359.0	10.66	
1151	4.56	10.99	15.87	11.30	1.261	0.43	-361.7	10.20	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO93-P2M	1151	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			Fair: some visible cracks and/or not sloping
TPH-DRO		BTEX and naphthalene	Poor: heavily cracked
O&G			Unsure: pad has been buried by site activities ✓
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Bolts in place
TCL SVOCs			Well Casing Condition
TAL Metals and Mercury (total)			Well Pad Condition
TAL Metals and Mercury (dissolved)			Well Casing Condition
Hexavalent Chromium			Well Condition
PCB			Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft
Matrix Spike			7.20 ft x 0.163 gal/ft = 1.51 (gal)
Duplicate			Well is structurally sound; not bent, broken, and no blockage identified ✓
Comments:			Well is bent or broken but is able to be used
Sampled By LEP			Well is broken and is not able to be used
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present ✓	

Low Flow Sampling Purge Log					 ARM Group Enterprises LLC Engineers and Scientists					
Well Number: CO182-MWI					Project Name: COA GW - Q4 2022					
Well Diameter (in): 2"					Project Number: 20010210					
Depth to Product (ft): NP					Date: 12/19/22					
Depth to Water (ft): 7.16					One Well Volume (gal): 7.54					
Product Thickness (ft): —					Flow Rate (mL/min) 280 → 240					
Depth to Bottom (ft): 53.43'					Length of time Purged (min) 60					
PURGING RECORD										
Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments	
1410	0.37 0.37	7.79	14.59	11.45	2.530	3.30	-336.0	1.73		
1415	0.74	7.79	14.93	11.72	2.642	0.85	-382.1	1.45		
1420	1.11	7.80	14.85	11.76	2.631	0.42	-394.8	0.97		
1425	1.48	7.80	14.46	11.78	2.533	0.35	-388.0	0.91		
1430	1.85	7.80	14.24	11.78	2.392	0.31	-386.8	1.20		
1435	2.22	7.81	14.24	11.76	2.271	0.30	-382.4	1.31	flow rate shared to try to stabilize	
1440	2.59	7.80	13.81	11.74	2.090	0.28	-316.5	0.80		
1445	2.96	7.70	13.71	11.72	1.965	0.29	-323.0	1.07		
1450	3.33	7.70	13.68	11.68	1.818	0.32	-328.0	1.10		
1455	3.70	7.70	13.74	11.65	1.675	0.32	-312.0	1.12		
SAMPLE RECORD AND WELL DETAILS										
Sample ID		Time Collected		Well Inspection						
CO182-MWI		1510		Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>						
				Well Pad Condition						
Sampling Parameters				Good: no visible cracks and is sloping <input checked="" type="checkbox"/>						
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping						
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked						
TPH-GRO			Unsure: pad has been buried by site activities							
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Bolts in place <input checked="" type="checkbox"/>						
O&G			Bolts are missing							
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Casing Condition						
TCL SVOCs			Casing is free from damage and visibly marked with the Well ID <input checked="" type="checkbox"/>							
TAL Metals and Mercury (total)			Well Condition							
TAL Metals and Mercury (dissolved)			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft 46.27 ft x 0.163 gal/ft = 7.54 (gal)							
Hexavalent Chromium			Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>							
PCB			Well is bent or broken but is able to be used							
Matrix Spike			Well is broken and is not able to be used							
Duplicate			Well is blocked and is not able to be used							
				Cap is present <input checked="" type="checkbox"/>						
				Well permit is present <input checked="" type="checkbox"/>						
Sampled By LEP		Comments: _____ sampled prior to stabilization, only specific conductance not stable								

Low Flow Sampling Purge Log	 ARM Group Enterprises LLC Engineers and Scientists
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Well Number: <u>C0182-MWI</u>	Project Name: <u>COR-GW-04-2022</u>
Well Diameter (in): <u>2"</u>	Project Number: <u>21010210</u>
Depth to Product (ft): <u>NP</u>	Date: <u>12/19/22</u>
Depth to Water (ft): <u>7.16</u>	One Well Volume (gal): <u>7.54</u>
Product Thickness (ft): <u>—</u>	Flow Rate (ml/min): <u>240</u>
Depth to Bottom (ft): <u>53.43</u>	Length of time Purged (min): <u>60</u>

PURGING RECORD

Time	Volume Purged (gallons)	DIW (feet)	Temp (°C)	pH (su) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/l) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or ± 5	Comments
1500	4.07	7.70	13.71	11.59	1.563	0.33	-302.3	1.10	
1505	4.44	7.70	13.72	11.51	1.454	0.34	-296.2	1.26	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection		
<u>C0182-MWI</u>	<u>1510</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓		
		Well Pad Condition		
Sampling Parameters		Good: no visible cracks and is sloping ✓		
Parameter	Collected?	Parameter	Collected?	
TCL-VOCs		Dissolved Zn and Cd		
TPH-GRO				
TPH-DRO		BTEX and naphthalene		
O&G				
Total Cyanide		VOC, SVOC, TAL, Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		
TCL SVOCs			Well Casing Condition	
TAL Metals and Mercury (total)			Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (dissolved)			Well Condition	
Hexavalent Chromium			Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
PCB			Well is structurally sound: not bent, broken, and no blockage identified ✓	
Matrix Spike			Well is bent or broken but is able to be used	
Duplicate			Well is broken and is not able to be used	
			Well is blocked and is not able to be used	
			Cap is present ✓	
		Well permit is present ✓		
Sampled By <u>LEP</u>	Comments:			


<h2 style="margin: 0;">Low Flow Sampling Purge Log</h2>	 <p>ARM Group Enterprises LLC Engineers and Scientists</p>
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Well Number: <u>CO190-MWS</u>	Project Name: <u>COA GW - Q4 2022</u>
Well Diameter (in): <u>2"</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>—</u>	Date: <u>12/19/22</u>
Depth to Water (ft): <u>13.94</u>	One Well Volume (gal): <u>1.56</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min) <u>255</u>
Depth to Bottom (ft): <u>23.51</u>	Length of time Purged (min) <u>60</u>

PURGING RECORD									
Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1234	0.34	14.16	19.62	8.22	2.690	2.55	-223.3	27.1	
1239	0.68	14.13	20.32	7.18	2.498	2.33	-85.2	23.0	
1244	1.02	14.16	20.40	7.01	2.283	3.26	-71.6	22.4	
1249	1.36	14.16	20.51	6.90	2.008	3.96	-66.8	19.5	
1254	1.7	14.16	20.59	6.82	1.895	4.24	-66.2	17.4	
1259	2.04	14.16	20.64	6.79	1.712	4.81	-67.6	13.2	
1304	2.38	14.16	20.59	6.77	1.693	4.62	-71.1	11.4	
1309	2.72	14.16	20.34	6.77	1.561	4.86	-70.8	10.6	
1314	3.06	14.16	20.51	6.80	1.499	4.76	-67.3	10.0	
1319	3.40	14.16	20.57	6.77	1.433	4.90	-74.3	9.8	

SAMPLE RECORD AND WELL DETAILS									
Sample ID		Time Collected		Well Inspection					
CO190-MWS		1330		Well has been found and is accessible without hazards. If no, explain in the comments section. ✓					
				Well Pad Condition					
Sampling Parameters				Good: no visible cracks and is sloping ✓					
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping					
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked					
TPH-GRO				Unsure: pad has been buried by site activities					
TPH-DRO		BTEX and naphthalene	✓	Bolts in place Not lock					
O&G				Bolts are missing					
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Casing Condition					
TCL SVOCs			Casing is free from damage and visibly marked with the Well ID ✓						
TAL Metals and Mercury (total)			Well Condition						
TAL Metals and Mercury (dissolved)			Casing Volume: 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft $9.57 \text{ ft} \times 0.163 \text{ gal/ft} = 1.56 \text{ (gal)}$						
Hexavalent Chromium			Well is structurally sound: not bent, broken, and no blockage identified ✓						
PCB			Well is bent or broken but is able to be used						
Matrix Spike			Well is broken and is not able to be used						
Duplicate			Well is blocked and is not able to be used						
			Cap is present ✓						
			Well permit is present ✓						

Sampled By: LEP
 Comments: ** sampled prior to stabilization, drilled by Eric and Rob after 60min or 3 well volumes - covered in rust, inside well casing and out, lots of fall in during gauging - lots of black silt/rust purged initially - liquid turned black once entering bucket*

<h2 style="margin: 0;">Low Flow Sampling Purge Log</h2>	 <p style="margin: 0;">ARM Group Enterprises LLC Engineers and Scientists</p>
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Well Number: C0190-MWS	Project Name: CoA GW-Q4 2022
Well Diameter (in): 2"	Project Number: 21010210
Depth to Product (ft): —	Date: 12/19/22
Depth to Water (ft): 13.94	One Well Volume (gal): 1.56
Product Thickness (ft): —	Flow Rate (ml/min): 255
Depth to Bottom (ft): 23.51	Length of time Purged (min): 60

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (SU) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/l) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or ± 5	Comments
1324	3.74	14.16	20.71	6.79	1.416	5.38	-73.3	9.1	
1329	4.08	14.16	20.67	6.85	1.304	5.56	-68.7	10.8	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection				
C0190-MWS	1330	Well has been found and is accessible without hazards. If no, explain in the comments section.		<input checked="" type="checkbox"/>		
		Well Pad Condition				
Sampling Parameters		Good: no visible cracks and is sloping		<input checked="" type="checkbox"/>		
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping		
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked		
TPH-GRO				Unsure: pad has been buried by site activities		
TPH-DRO		BTEX and naphthalene	<input checked="" type="checkbox"/>	Bolts in place		
O&G				Bolts are missing	<i>no lock</i>	
Total Cyanide		VOC, SVOC, TAL, Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Well Casing Condition		
TCL SVOCs				Casing is free from damage and visibly marked with the Well ID		<input checked="" type="checkbox"/>
TAL Metals and Mercury (total)				Well Condition		
TAL Metals and Mercury (dissolved)				Casing Volume 1" ID = 0.041 gal/ft - 2" ID = 0.163 gal/ft - 4" ID = 0.653 gal/ft - 6" ID = 1.47 gal/ft 9.57 ft x 0.163 gal/ft = 1.56 (gal)		
Hexavalent Chromium				Well is structurally sound: not bent, broken, and no blockage identified		<input checked="" type="checkbox"/>
PCB				Well is bent or broken but is able to be used		
Matrix Spike				Well is broken and is not able to be used		
Duplicate				Well is blocked and is not able to be used		
				Cap is present		<input checked="" type="checkbox"/>
				Well permit is present		<input checked="" type="checkbox"/>
Sampled By LEP	Comments: <i>- Sampled prior to stabilization, only spec cond not stabilized and turbidity</i>					

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO194-MWS	Project Name: COA GW - Q4 2022
Well Diameter (in): 2	Project Number: 20010210
Depth to Product (ft): —	Date: 12/9/22
Depth to Water (ft): 14.16	One Well Volume (gal): 1.69
Product Thickness (ft): —	Flow Rate (mL/min) 300
Depth to Bottom (ft): 24.37	Length of time Purged (min) 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1041	.4	14.10	14.86	12.91	8.183	1.40	-206	1.21	
1046	.79	14.11	15.11	12.56	8.586	0.52	-204	7.24	
1051	1.19	14.11	15.00	12.58	8.566	0.48	-234	5.06	
1056	2.59	14.11	15.15	12.60	8.540	0.39	-191	2.91	7
1101	1.98	14.12	15.12	12.61	8.515	0.36	-196	1.50	
1106	2.38	14.12	14.96	12.62	8.508	0.34	-194	1.29	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO194-MWS	11 11	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	X
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride, Turbidity,	
PCB		TDS,	
Matrix Spike		Specific	
Duplicate		Conductance	
Sampled By		Well Casing Condition	
TJP		Casing is free from damage and visibly marked with the Well ID ✓	
		Well Condition	
Comments:		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified ✓	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
Comments:		Well permit is present ✓	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: CO195-MWS	Project Name: COA GW - Q4 2022
Well Diameter (in): 2"	Project Number: 20010210
Depth to Product (ft): —	Date: 12/6/22
Depth to Water (ft): 14.28	One Well Volume (gal): 3.9
Product Thickness (ft): —	Flow Rate (mL/min) 320
Depth to Bottom (ft): 39.20	Length of time Purged (min) 30

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1325	0.46	14.30	16.49	11.56	1.517	0.45	-1098	9.21	
1330	0.85	14.3	16.25	11.96	1.907	0.27	-1584	4.62	
1335	1.27	14.21	16.32	12.09	2.178	0.23	-195.1	7.55	
1340	1.69	14.51	16.21	12.15	2.188	0.22	-213.2	5.76	
1345	2.11	14.32	16.15	12.14	2.185	0.21	-217.2	4.02	7
1350	2.54		16.20	12.15	2.190	0.19	-216.5	3.54	✓

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection			
CO195-MWS	1355	Well has been found and is accessible without hazards. If no, explain in the comments section.		✓	
		Well Pad Condition			
Sampling Parameters		Good: no visible cracks and is sloping		✓	
Parameter	Collected?	Parameter	Collected?		
TCL-VOCs		Dissolved Zn and Cd		Fair: some visible cracks and/or not sloping	
TPH-GRO			Poor: heavily cracked		
TPH-DRO		BTEX and naphthalene	X	Unsure: pad has been buried by site activities	
O&G			Bolts in place		
Total Cyanide		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance		Bolts are missing	
TCL SVOCs			Well Casing Condition		
TAL Metals and Mercury (total)			Casing is free from damage and visibly marked with the Well ID		
TAL Metals and Mercury (dissolved)			Well Condition		
Hexavalent Chromium			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)		
PCB			Well is structurally sound: not bent, broken, and no blockage identified		
Matrix Spike			Well is bent or broken but is able to be used		
Duplicate			Well is broken and is not able to be used		
			Well is blocked and is not able to be used		
			Cap is present		
		Well permit is present			
Sampled By	Comments:				
HJP					

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO196-M45</u>	Project Name: COA GW - Q4 2022
Well Diameter (in): <u>2</u>	Project Number: <u>20010210</u>
Depth to Product (ft): <u>—</u>	Date: <u>12/9/22</u>
Depth to Water (ft): <u>13.65</u>	One Well Volume (gal): <u>2.8</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min): <u>290</u>
Depth to Bottom (ft): <u>30.85</u>	Length of time Purged (min): <u>30</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
<u>12:44</u>	<u>0.37</u>	<u>—</u>	<u>18.76</u>	<u>11.79</u>	<u>2.564</u>	<u>0.73</u>	<u>-174</u>	<u>10.6</u>	
<u>12:47</u>	<u>.74</u>	<u>13.66</u>	<u>18.82</u>	<u>11.82</u>	<u>2.584</u>	<u>0.52</u>	<u>-176</u>	<u>9.3</u>	
<u>12:54</u>	<u>1.11</u>	<u>13.67</u>	<u>18.92</u>	<u>11.83</u>	<u>2.592</u>	<u>0.30</u>	<u>-175</u>	<u>11.53</u>	
<u>12:59</u>	<u>1.48</u>	<u>13.67</u>	<u>18.80</u>	<u>11.82</u>	<u>2.592</u>	<u>0.33</u>	<u>-167</u>	<u>6.68</u>	
<u>1:04</u>	<u>1.85</u>	<u>13.67</u>	<u>18.76</u>	<u>11.85</u>	<u>2.600</u>	<u>0.34</u>	<u>-171</u>	<u>4.38</u>	<u>7</u>
<u>1:09</u>	<u>2.22</u>	<u>13.67</u>	<u>18.75</u>	<u>11.84</u>	<u>2.610</u>	<u>0.28</u>	<u>-173</u>	<u>3.52</u>	<u>✓</u>

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>CO196-M48</u>	<u>1315</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
Sampling Parameters		Well Pad Condition	
Parameter	Collected?	Good: no visible cracks and is sloping ✓	
TCL-VOCs		Fair: some visible cracks and/or not sloping	
TPH-GRO		Poor: heavily cracked	
TPH-DRO		Unsure: pad has been buried by site activities	
O&G		Bolts in place	
		Bolts are missing	
Total Cyanide		Well Casing Condition	
TCL SVOCs		Casing is free from damage and visibly marked with the Well ID ✓	
TAL Metals and Mercury (total)		Well Condition	
TAL Metals and Mercury (dissolved)		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
Hexavalent Chromium		Well is structurally sound: not bent, broken, and no blockage identified ✓	
PCB		Well is bent or broken but is able to be used	
Matrix Spike		Well is broken and is not able to be used	
Duplicate		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present ✓	

Sampled By: [Signature] Comments: _____

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO 198-MWS</u>	Project Name: COA GW - Q4 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>12/7/22</u>
Depth to Water (ft): <u>14.33</u>	One Well Volume (gal): <u>3.88</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min) <u>700</u>
Depth to Bottom (ft): <u>38.15</u>	Length of time Purged (min) <u>35</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
0937	.4	14.36	15.70	12.24	4.685	0.95	-119	6.11	
0942	.79		16.07	12.30	7.958	0.66	-164	4.98	
0947	1.19	14.33	15.87	12.35	8.732	0.52	-186	2.98	
0952	1.59	14.37	16.14	12.40	9.699	0.43	-195	1.53	
0957	1.98	14.37	15.77	12.43	10.11	0.40	-212	1.40	
1002	2.38		15.68	12.44	10.17	0.37	-214	0.91	
1007	2.77		15.69	12.44	10.20	0.36	-209	0.94	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
CO 198-MWS	1015	Well has been found and is accessible without hazards. If no, explain in the comments section. <input checked="" type="checkbox"/>	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping <input checked="" type="checkbox"/>	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	X
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride,	
PCB		Turbidity,	
Matrix Spike		TDS,	
Duplicate		Specific Conductance	
Comments:		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
Sampled By: <u>JDP</u>		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	
		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	
		Well is structurally sound: not bent, broken, and no blockage identified <input checked="" type="checkbox"/>	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present <input checked="" type="checkbox"/>	
		Well permit is present <input checked="" type="checkbox"/>	

Spec. Cond is 7

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>CO201-MWS</u>	Project Name: COA GW - Q4 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>—</u>	Date: <u>12/9/22</u>
Depth to Water (ft): <u>13.23</u>	One Well Volume (gal): <u>3.65</u>
Product Thickness (ft): <u>—</u>	Flow Rate (mL/min): <u>300</u>
Depth to Bottom (ft): <u>35.60</u>	Length of time Purged (min): <u>30</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1135	0.4	13.20	17.68	11.77	1.931	1.12	-117	7.65	
1140	0.79	13.30	18.35	11.99	2.023	0.40	-101	9.28	
1145	1.19	13.30	18.00	11.41	2.001	0.38	-94	10.0	
1150	1.59	13.30	18.45	11.37	2.005	0.32	-100	6.85	
1155	1.98	13.29	18.45	11.35	2.008	0.26	-99	3.02	7
1200	2.38	13.29	18.49	11.33	2.005	0.25	-102	4.17	7
		✓							

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection	
<u>CO201-MWS</u>	<u>1205</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓	
		Well Pad Condition	
Sampling Parameters		Good: no visible cracks and is sloping ✓	
Parameter	Collected?	Parameter	Collected?
TCL-VOCs		Dissolved Zn and Cd	
TPH-GRO			
TPH-DRO		BTEX and naphthalene	✓
O&G			
Total Cyanide		VOC,	
TCL SVOCs		SVOC, TAL	
TAL Metals and Mercury (total)		Metals and mercury, Sulfate, Nitrate,	
TAL Metals and Mercury (dissolved)		Ammonia, COD,	
Hexavalent Chromium		Alkalinity, Chloride,	
PCB		Turbidity,	
Matrix Spike		TDS,	
Duplicate		Specific Conductance	
Sampled By: <u>[Signature]</u>		Well Casing Condition	
Comments:		Casing is free from damage and visibly marked with the Well ID ✓	
		Well Condition	
		Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)	
		Well is structurally sound: not bent, broken, and no blockage identified ✓	
		Well is bent or broken but is able to be used	
		Well is broken and is not able to be used	
		Well is blocked and is not able to be used	
		Cap is present ✓	
		Well permit is present ✓	

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>GD 1-MW2</u>	Project Name: COA GW - Q4 2022
Well Diameter (in): <u>2</u>	Project Number: 20010210
Depth to Product (ft): <u>-</u>	Date: <u>12/29/21</u>
Depth to Water (ft): <u>34.34</u>	One Well Volume (gal): <u>2,44</u>
Product Thickness (ft): <u>-</u>	Flow Rate (mL/min) <u>500</u>
Depth to Bottom (ft): <u>49.35</u>	Length of time Purged (min) <u>25</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1410	1.6	34.50	17.22	8.25	14.81	0.55	-230	10.2	
1415	1.31	34.50	17.88	8.21	15.48	0.37	-248	2.70	
1420	1.98	34.50	17.99	8.18	15.68	0.32	-254	2.65	
1425	2.64	34.50	18.07	8.17	15.73	0.30	-252	2.79	7
1430	3.3		18.08	8.18	15.77	0.29	-257	2.12	7
1435									

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection								
<u>GD 1-MW2</u>	<u>1435</u>	Well has been found and is accessible without hazards. If no, explain in the comments section. ✓								
		Well Pad Condition								
Sampling Parameters		Good: no visible cracks and is sloping ✓								
Parameter	Collected?	Parameter	Collected?	Fair: some visible cracks and/or not sloping						
TCL-VOCs		Dissolved Zn and Cd		Poor: heavily cracked						
TPH-GRO			Unsured: pad has been buried by site activities							
TPH-DRO		BTEX and naphthalene	✓	Bolts in place						
O&G				Bolts are missing						
Total Cyanide		Well Casing Condition								
TCL SVOCs		VOC, SVOC, TAL Metals and mercury, Sulfate, Nitrate, Ammonia, COD, Alkalinity, Chloride, Turbidity, TDS, Specific Conductance	Casing is free from damage and visibly marked with the Well ID					•		
TAL Metals and Mercury (total)			Well Condition							
TAL Metals and Mercury (dissolved)			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft _____ ft x _____ gal/ft = _____ (gal)							
Hexavalent Chromium			Well is structurally sound: not bent, broken, and no blockage identified					✓		
PCB			Well is bent or broken but is able to be used							
Matrix Spike			Well is broken and is not able to be used							
Duplicate			Well is blocked and is not able to be used							
			Cap is present					✓		
		Well permit is present					✓			

Comments:

Sampled By: TCH

Low Flow Sampling Purge Log



**ARM Group
Enterprises LLC**
Engineers and Scientists

Well Number: <u>GDOZ-MWI</u>	Project Name: COA GW - Q4 2022
Well Diameter (in): <u>2"</u>	Project Number: 20010210
Depth to Product (ft): <u>✓</u>	Date: 12/29/22 <u>12/27/22</u>
Depth to Water (ft): <u>20.37</u>	One Well Volume (gal): <u>4.74</u>
Product Thickness (ft): <u>✓</u>	Flow Rate (mL/min): <u>320</u>
Depth to Bottom (ft): <u>49.45</u>	Length of time Purged (min): <u>45</u>

PURGING RECORD

Time	Volume Purged (gallons)	DTW (feet)	Temp (°C)	pH (s.u.) ± 0.1	Specific Conductance (ms/cm) ± 3%	Dissolved Oxygen (mg/L) ± 0.3	ORP (mV) ± 10	Turbidity (NTU) ± 10% or < 5	Comments
1150	.42	20.46	15.86	7.21	6.099	1.03	-319	34.3	
1155	.75	16.04 ^{20.46}	16.04	7.64	6.317	0.24	-334	24.7	
1200	1.27	20.51	16.39	7.72	6.294	2.18	-291	33.5	
1205	1.69	20.51	16.08	7.68	3.275	1.76	-702	38.3	
1210	2.11	20.51	16.39	7.65	6.189	0.28	-342	25.7	
1215	2.54		16.37	7.67	6.407	0.39	-346	29.4	
1220	2.96		16.12	7.67	6.418	0.48	-298	10.7	7 ✓
1225	3.38		16.17	7.68	6.417	0.50	-351	10.1	
1230	3.80	—	16.18	7.67	6.423	0.50	-358	10.0	

SAMPLE RECORD AND WELL DETAILS

Sample ID	Time Collected	Well Inspection		
GDOZ-MWI	1235	Well has been found and is accessible without hazards. If no, explain in the comments section. L ✓		
		Well Pad Condition		
Sampling Parameters		Good: no visible cracks and is sloping ✓		
Parameter	Collected?	Parameter	Collected?	
TCL-VOCs		Dissolved Zn and Cd		
TPH-GRO			Fair: some visible cracks and/or not sloping	
TPH-DRO		BTEX and naphthalene		
O&G			Poor: heavily cracked	
Total Cyanide		X	Unsured: pad has been buried by site activities	
TCL SVOCs			Bolts in place ✓	
TAL Metals and Mercury (total)			Bolts are missing	
TAL Metals and Mercury (dissolved)			Well Casing Condition	
Hexavalent Chromium			Casing is free from damage and visibly marked with the Well ID	
PCB			Well Condition	
Matrix Spike			Casing Volume: 1" I.D. = 0.041 gal/ft - 2" I.D. = 0.163 gal/ft - 4" I.D. = 0.653 gal/ft - 6" I.D. = 1.47 gal/ft	
Duplicate			ft x gal/ft = (gal)	
			Well is structurally sound: not bent, broken, and no blockage identified ✓	
			Well is bent or broken but is able to be used	
		Well is broken and is not able to be used		
		Well is blocked and is not able to be used		
		Cap is present ✓		
		Well permit is present ✓		

Comments: Sampled via per pump, water 5 mls or below down petroleum

Sampled by: JP

APPENDIX C

System Operations/Shut-Down Summary

JANUARY 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 •Cell 1 (On) •Cell 2 GW (Off) - Plugged bag filters •Cell 3 (Off) •Cell 5 (Off) - Lead LGAC vessel requires replacement	2 •Cell 1 (On) •Cell 2 GW (Off) - Plugged bag filters •Cell 3 (Off) •Cell 5 (Off)
3 •Cell 1 (On) •Cell 2 GW (Off) - Plugged bag filters •Cell 3 (Off) •Cell 5 (Off)	4 •Cell 1 (On) - Sampled •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	5 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	6 •Cell 1 (On) •Cell 2 GW (On) Sampled •Cell 3 (Off) •Cell 5 (Off)	7 •Cell 1 (On) •Cell 2 GW (On) - Sampled •Cell 3 (Off) •Cell 5 (Off)	8 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (Off)	9 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)
10 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	11 •Cell 1 (On) •Cell 2 GW (On) - EW-4 vault and pump work •Cell 3 (Off) •Cell 5 (Off)	12 •Cell 1 (On) •Cell 2 GW (On) - EW-4 pump work •Cell 3 (Off) •Cell 5 (Off)	13 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	14 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	15 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	
17 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	18 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	19 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	20 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	21 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	22 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	23 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)
24 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	25 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	26 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	27 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	28 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	29 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	30 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)
31 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On)		NOTES:				

FEBRUARY 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1	2	3	4	5
	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) - Sampled •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) - Sampled •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) - Sampled. Southern wellfield configuration •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)
6	7	8	9	10	11	12
<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) - EW-4 pump cleaned •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)
13	14	15	16	17	18	19
<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) - Northern wellfield configuration •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)
20	21	22	23	24	25	26
<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)
27	28					
<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 	<ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off) 					
		NOTES:				

MARCH 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1 •Cell 1 (On) - Sampled •Cell 2 GW (On) - Sampled •Cell 3 (Off) •Cell 5 (Off)	2 •Cell 1 (On) - Sampled •Cell 2 GW (On) - Sampled •Cell 3 (Off) •Cell 5 (Off)	3 •Cell 1 (On) •Cell 2 GW (On) - EW-4 pump cleaned •Cell 3 (Off) •Cell 5 (Off)	4 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	5 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)
6 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	7 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	8 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (Off)	9 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On) - New lead LGAC vessel installed	10 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On)	11 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On) - Sampled	12 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On)
13 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On)	14 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On) - Sampled	15 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On)	16 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On)	17 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On)	18 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On)	19 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On)
20 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On)	21 •Cell 1 (On) - Southern wellfield configuration •Cell 2 GW (On) •Cell 3 (Off) •Cell 5 (On) -LRP preventative maintenance	22 •Cell 1 (On) •Cell 2 GW (Off) - EW-4 pump failed •Cell 3 (Off) •Cell 5 (On)	23 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On) - Reinjection water piping clean-out repair	24 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)	25 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)	26 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)
27 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)	28 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)	29 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)	30 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)	31 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)		
		NOTES:				

APRIL 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)	2 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)
3 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)	4 •Cell 1 (On) - Sampled. Northern wellfield configuration •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On) - Sampled	5 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On) - Sampled	6 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)	7 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)	8 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)	9 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)
10 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)	11 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)	12 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) - New SVE blower installed. AS compressor preventative maintenance •Cell 5 (Off)- Annual AST cleaning	13 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (Off)	14 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) - Sampled •Cell 5 (Off)	15 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	16 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
17 •Cell 1 (Off) - SVE VFD Fault alarm •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	18 •Cell 1 (Off) - SVE VFD Fault alarm •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	19 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	20 •Cell 1 (On) - •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	21 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	22 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	23 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
24 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	25 •Cell 1 (On) •Cell 2 GW (Off) - AST disassembled for cleaning •Cell 3 (On) •Cell 5 (On)	26 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sulfuric acid drum transfer	27 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	28 •Cell 1 (On) •Cell 2 GW (Off) - AST cleaned and rebuilt •Cell 3 (On) •Cell 5 (On)	29 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	30 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
		NOTES:				

MAY 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1 •Cell 1 (Off) - SVE VFD Fault alarm •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	2 •Cell 1 (On) •Cell 2 GW (Off) - New pumps deployed in EW-4 and EW-5 •Cell 3 (On) •Cell 5 (On)	3 •Cell 1 (On) - Sampled •Cell 2 GW (Off) •Cell 3 (On) - Sampled •Cell 5 (On) - Sampled	4 •Cell 1 (On) - Southern wellfield configuration •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sampled	5 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	6 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	7 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
8 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	9 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	10 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)	11 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On) - CL5432 anti-scalent drum transfer	12 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	13 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	14 •Cell 1 (Off) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
15 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	16 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)	17 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)	18 •Cell 1 (On) - Northern wellfield configuration •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)	19 •Cell 1 (On) •Cell 2 GW (On) - Sampled •Cell 3 (On) •Cell 5 (On)	20 •Cell 1 (On) •Cell 2 GW (On) - Sampled •Cell 3 (On) •Cell 5 (On)	21 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)
22 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)	23 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On) - Sulfuric acid drum transfer	24 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)	25 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)	26 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)	27 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)	28 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)
29 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)	30 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)	31 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)				
		NOTES:				

JUNE 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1 •Cell 1 (On) - Sampled •Cell 2 GW (On) •Cell 3 (On) - Sampled •Cell 5 (On) - Sampled. LRP preventative maintenance.	2 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On) - Sampled	3 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)	4 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)
5 •Cell 1 (On) •Cell 2 GW (On) •Cell 3 (On) •Cell 5 (On)	6 •Cell 1 (On) •Cell 2 GW (Off) - Catox piping filter housings removed •Cell 3 (On) •Cell 5 (On)	7 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	8 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	9 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	10 •Cell 1 (On) - •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	11 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
12 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	13 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	14 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	15 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sulfuric acid drum transfer	16 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	17 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	18 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
19 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	20 •Cell 1 (On) - Southern wellfield configuration •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	21 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	22 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	23 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	24 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	25 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
26 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	27 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	28 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	29 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	30		
		NOTES:				

JULY 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	2 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
3 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	4 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	5 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	6 •Cell 1 (On) - Sampled. Northern wellfield configuration •Cell 2 GW (Off) •Cell 3 (On) - Sampled •Cell 5 (Off) - Annual extraction well groundwater sampling event	7 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - LRP preventative maintenance	8 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	9 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
10 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	11 •Cell 1 (On) •Cell 2 GW (Off) - Catox filter housings installed •Cell 3 (On) •Cell 5 (On) - Sampled	12 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sampled	13 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	14 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	15 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	16 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
17 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	18 •Cell 1 (On) - AS compressor preventative maintenance •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sulfuric acid drum transfer	19 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	20 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	21 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	22 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	23 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
24 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	25 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	26 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	27 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	28 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	29 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	30 •Cell 1 (Off) - SVE VFD Fault alarm •Cell 2 GW (Off) •Cell 3 (Off) - SVE VFD Fault alarm •Cell 5 (On)
31 •Cell 1 (Off) - SVE VFD Fault alarm •Cell 2 GW (Off) •Cell 3 (Off) •Cell 5 (On)		NOTES:				

AUGUST 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
	1 <ul style="list-style-type: none"> •Cell 1 (On) - Sampled •Cell 2 GW (Off) •Cell 3 (On) - Sampled •Cell 5 (On) - Sampled 	2 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sampled 	3 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	4 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	5 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	6 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	
7 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	8 <ul style="list-style-type: none"> •Cell 1 (On) - Southern wellfield configuration •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - LGAC vessel hose construction 	9 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	10 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - LGAC vessel hose construction 	11 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	12 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	13 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	
14 <ul style="list-style-type: none"> •Cell 1 (Off) - SVE VFD Fault alarm •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	15 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	16 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Begin LGAC vessel insulation installation. Sulfuric acid drum transfer. 	17 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) LGAC vessel insulation installation. 	18 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	19 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	20 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	
21 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	22 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	23 <ul style="list-style-type: none"> •Cell 1 (On) - Northern wellfield configuration •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	24 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - LGAC vessel insulation installation 	25 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - LGAC vessel insulation installation complete 	26 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	27 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	
28 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	29 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	30 <ul style="list-style-type: none"> •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 	31 <ul style="list-style-type: none"> •Cell 1 (Off) - SVE VFD Fault alarm •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) 				
		NOTES:					

SEPTEMBER 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 •Cell 1 (Off) - SVE VFD Fault alarm •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sampled	2 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sampled	3 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
4 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	5 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	6 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	7 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	8 •Cell 1 (On) - Sampled •Cell 2 GW (Off) •Cell 3 (On) - Sampled •Cell 5 (On)	9 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	10 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
11 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	12 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - LRP preventative maintenance	13 •Cell 1 (On) - •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sulfuric acid drum transfer	14 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	15 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	16 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	17 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
18 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	19 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	20 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (Off) - Lag LGAC vessel in use at Cell 4	21 •Cell 1 (On) - Southern wellfield configuration •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (Off)	22 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (Off)	23 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (Off)	24 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (Off)
25 •Cell 1 (Off) - SVE VFD Fault alarm •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (Off)	26 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (Off)	27 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Reinjection water piping tie-in repair	28 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	29 •Cell 1 (Off) - New SVE VFD ordered •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	30 •Cell 1 (Off) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	
		NOTES:				

OCTOBER 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1 •Cell 1 (Off) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
2 •Cell 1 (Off) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	3 •Cell 1 (Off) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	4 •Cell 1 (Off) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	5 •Cell 1 (Off) •Cell 2 GW (Off) •Cell 3 (On) - Sampled •Cell 5 (On)	6 •Cell 1 (Off) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	7 •Cell 1 (Off) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	8 •Cell 1 (Off) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
9 •Cell 1 (Off) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	10 •Cell 1 (Off) - New SVE VFD installed •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sampled	11 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sampled	12 •Cell 1 (On) - Sampled •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	13 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	14 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	15 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
16 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	17 •Cell 1 (On) - Norhtern wellfield configuration •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	18 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	19 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sulfuric acid drum transfer.	20 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	21 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (Off) - Reinjection water piping tie-in damaged	22 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (Off)
23 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (Off)	24 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (Off)	25 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Reinjection water piping tie-in repair and insulation installation	26 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	27 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	28 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	29 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
30 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	31 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	NOTES:				

NOVEMBER 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1 •Cell 1 (On) - Sampled •Cell 2 GW (Off) •Cell 3 (On) - Sampled •Cell 5 (On) - Sampled	2 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sampled	3 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	4 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	5 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
6 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	7 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	8 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	9 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	10 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	11 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	12 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
13 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	14 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	15 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	16 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	17 •Cell 1 (On) - Southern wellfield configuration •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	18 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	19 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
20 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	21 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	22 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sulfuric acid drum transfer	23 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	24 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	25 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	26 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
27 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	28 •Cell 1 (On) Southern wellfield configuration •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - MS tank preventative maintenance	29 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	30 •Cell 1 (On) - Northern wellfield configuration •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)			
		NOTES:				

DECEMBER 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 •Cell 1 (On) - Sampled •Cell 2 GW (Off) •Cell 3 (On) - Sampled •Cell 5 (On) - Sampled	2 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On) - Sampled	3 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
4 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	5 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	6 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	7 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	8 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	9 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	10 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
11 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	12 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	13 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	14 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	15 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	16 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	17 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
18 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	19 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	20 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	21 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	22 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	23 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	24 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
25 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	26 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	27 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	28 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	29 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	30 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)	31 •Cell 1 (On) •Cell 2 GW (Off) •Cell 3 (On) •Cell 5 (On)
		NOTES:				

APPENDIX D

Historical Data Summary



Coke Oven Historical Data - Cell 1 Groundwater Analytical Results

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Location ID:	CO190-MWS																		
	ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	42.8 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	148,000	NS	588,000	NS	NS	NS	NS	NS	155,000	427,000	763,000	299,000	645,000	107,000 H1	2,200	90,000
Bromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	49.5	NS	63.8	NS	NS	NS	NS	NS	9.5	40.6	68.6	21.1	38.9	7.1 J	10 U	500 U
Iodomethane	NS	NS	NS	NS	NS	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	20 U	1,000 U

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	39.8	NS	231	NS	NS	NS	NS	NS	97	74.4	315	98.1	173	25.5 J	20 U	1,000 U
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	20 U	1,000 U
Styrene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	9,200	NS	44,700	NS	NS	NS	NS	NS	8,510	28,300	54,400	15,900	35,200	6,950	21	5,100
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	437	NS	1,530	NS	NS	NS	NS	NS	194	988	1,540	503	1,040	186	20 U	1,000 U

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
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Location ID:	CO191-MWS																			
	ug/L																			
Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	107,000	NS	NS	NS	104,000 H1	NS	NS
Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	243	NS	NS	NS	235	NS	NS
Naphthalene	NS	NS	NS	271	NS	548	NS	NS	NS	NS	NS	NS	NS	377	NS	NS	NS	285	NS	NS
Toluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	19,600	NS	NS	NS	12,400	NS	NS
Xylenes	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,730	NS	NS	NS	2,480	NS	NS

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Location ID:	CO93-PZM ug/L																		
1,1,1,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	25 U	25 U	25 U	NS	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	21.8 J	35.1 J	50 U	NS	153	50 U	40.3 J	33.7 J	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	20 U	20 U	20 U	NS	20 U	20 U	20 U	20 U	20 U	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	201,000	172,000	162,000	NS	247,000	184,000	148,000	182,000	168,000	183,000 M5	154,000	249,000	181,000	159,000	182,000	156,000	173,000 H1	180,000	180,000
Bromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	5 U	5 U	5 U	NS	5 U	5 U	7.1 CL	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	17.4	14.6	9.9	NS	12.7	19.5	6.6	18.9	13.2	11.5 M5	12	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	12.2	10.1	5 U	NS	5 U	5 U	5 U	11.5	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	1,120	975	752	NS	1,250	1,350	1,210	1,270	940	1,190 M5	934	641	1,050	1,290	1,410	1,060	1,250	810	1,500
Iodomethane	250 U	250 U	250 U	NS	250 U	250 U	250 U	250 U	250 U	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6,500	13,000
Methyl tertiary-butyl ether	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	5 U	5 U	4 J	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	1,930	1,930	1,670	NS	1,900	14,100	4,800	4,440	1,850	6,240 M5	1,740	1,340	1,840	6,040	7,200	1,660 CL	1,870	2,000	2,200
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,300	4,400

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	1,180	1,010	832	NS	1,300	1,620	1,320	1,390	1,020	1,290 M5	1,090	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	63,900	60,700	42,500	NS	69,900	64,500	54,000	58,000	53,800	68,400 M5	52,300	73,900	48,200	57,300	59,800	44,200	54,100 H1	31,000	55,000
trans-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	25 U	25 U	25 U	NS	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	50 U	50 U	50 U	NS	50 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	17,100	16,200	9,840	NS	16,900	22,500	12,500	14,600	12,300	14,600 M5	8,590	15,000	10,500	16,800	15,100	10,700	14,200	8,800	17,000



Coke Oven Historical Data - Cell 2 Groundwater Analytical Results

Parameter 9/1/2018 12/1/2018 3/1/2019 5/1/2019 6/1/2019 10/1/2019 12/1/2019 2/1/2020 5/1/2020 9/1/2020 12/1/2020 3/1/2021 6/1/2021 9/1/2021 12/1/2021 2/1/2022 6/1/2022 8/1/2022 12/1/2022

Location ID:	CO179-MWS ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	105	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	2,390	NS	8,000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	299	NS	225	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iodomethane	NS	NS	NS	NS	NS	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Methylene Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	2,710 B	NS	1,380	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Styrene	NS	NS	NS	NS	NS	199	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	3,260	NS	4,400	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	2,970	NS	2,150	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Location ID:	CO180-MWI ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	51,700	NS	507	NS	NS	NS	NS	NS	NS	39,700	NS	NS	NS	31,000	NS	NS
Bromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	182	NS	5 U	NS	NS	NS	NS	NS	NS	159	NS	NS	NS	140	NS	NS
Iodomethane	NS	NS	NS	NS	NS	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,600	NS	NS
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	3,370 L1B	NS	64.8	NS	NS	NS	NS	NS	NS	2,540	NS	NS	NS	1,200	NS	NS
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	540	NS	NS

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	11,700	NS	120	NS	NS	NS	NS	NS	NS	8,700	NS	NS	NS	7,100	NS	NS
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	2,870	NS	36.6	NS	NS	NS	NS	NS	NS	2,690	NS	NS	NS	2,100	NS	NS

Location ID:	CO180-MWS ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	33,400	NS	31,900	NS	NS	NS	NS	NS	NS	786	NS	NS	NS	24,000	NS	NS
Bromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	147	NS	120	NS	NS	NS	NS	NS	NS	3.7 J	NS	NS	NS	110 J	NS	NS
Iodomethane	NS	NS	NS	NS	NS	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,300	NS	NS
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	2,700 L1B	NS	1,670	NS	NS	NS	NS	NS	NS	62.7	NS	NS	NS	930	NS	NS
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	430	NS	NS

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	NS	NS	NS	NS	NS	33.6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	8,330	NS	7,720	NS	NS	NS	NS	NS	NS	180	NS	NS	NS	6,500	NS	NS
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	2,540	NS	2,060	NS	NS	NS	NS	NS	NS	54.5	NS	NS	NS	1,700	NS	NS

Location ID:	CO181-MWI ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	66,600 ML	NS	54,300	NS	NS	NS	NS	NS	NS	9,870	NS	NS	NS	39,000	NS	NS
Bromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	271	NS	211	NS	NS	NS	NS	NS	NS	71.5	NS	NS	NS	210 J	NS	NS
Iodomethane	NS	NS	NS	NS	NS	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,200	NS	NS
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	1,570 L1BM6R	NS	16,500	NS	NS	NS	NS	NS	NS	1,320	NS	NS	NS	2,000	NS	NS
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	710	NS	NS

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	NS	NS	NS	NS	NS	63.9	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	17,500	NS	13,600	NS	NS	NS	NS	NS	NS	2,920	NS	NS	NS	11,000	NS	NS
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	4,210	NS	3,280	NS	NS	NS	NS	NS	NS	1,180	NS	NS	NS	2,900	NS	NS

Location ID:	CO181-MWS ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	38,400	NS	21,900	NS	NS	NS	NS	NS	28,400	NS	NS	NS	29,000	NS	NS	NS
Bromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	155	NS	92.5	NS	NS	NS	NS	NS	145	NS	NS	NS	130	NS	NS	NS
Iodomethane	NS	NS	NS	NS	NS	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,500	NS	NS	NS
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	4,810 L1B	NS	1,810	NS	NS	NS	NS	NS	3,710	NS	NS	NS	1,700	NS	NS	NS
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	480	NS	NS	NS

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	NS	NS	NS	NS	NS	22.1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	9,020	NS	4,260	NS	NS	NS	NS	NS	NS	5,810	NS	NS	NS	6,900	NS	NS
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	2,420	NS	1,440	NS	NS	NS	NS	NS	NS	1,920	NS	NS	NS	2,000	NS	NS

Location ID:	CO182-MWI ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	40.6 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	264,000	NS	318,000	NS	NS	NS	NS	NS	218,000	362,000	317,000	336,000	344,000	278,000 1c	210,000	100,000
Bromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	917	NS	974	NS	NS	NS	NS	NS	322	1,020	911	1,010	666	1,040 1c	800	400 J
Iodomethane	NS	NS	NS	NS	NS	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4,500	2,600
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	947 L1B	NS	295	NS	NS	NS	NS	NS	191	153	320 CH	218	260	222 1c	250 J	500 J
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,800	970 J

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	NS	NS	NS	NS	NS	128	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	37,100	NS	59,300	NS	NS	NS	NS	NS	45,700	60,400	44,000	40,000	69,400	26,100 1c	17,000	7,000
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	2.7 JB	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	10,800	NS	17,800	NS	NS	NS	NS	NS	8,870	12,600	12,100	12,900	17,600	8,980 1c	6,300	3,600 J

Location ID:	CO186-MWS ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	337,000	NS	417,000	NS	NS	NS	NS	NS	47,100	NS	NS	NS	31,600	NS	NS	NS
Bromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	1,020	NS	708	NS	NS	NS	NS	NS	119	NS	NS	NS	59.7	NS	NS	NS
Iodomethane	NS	NS	NS	NS	NS	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	126	NS	138	NS	NS	NS	NS	NS	31.7	NS	NS	NS	8	NS	NS	NS
Styrene	NS	NS	NS	NS	NS	504	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Toluene	NS	NS	NS	122,000	NS	134,000	NS	NS	NS	NS	NS	NS	14,600	NS	NS	NS	6,090	NS	NS
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	24,400	NS	21,800	NS	NS	NS	NS	NS	NS	2,140	NS	NS	NS	976	NS	NS

Location ID:	CO209-MWI ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	NS	NS	38.1 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	NS	NS	NS	NS	1,440	NS	NS	NS	NS	1,120	NS	NS	NS	1,910	NS	NS
Bromochloromethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	33.1	NS	NS	NS	NS	45.2	NS	NS	NS	82	NS	NS
Iodomethane	NS	NS	NS	NS	NS	NS	NS	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	NS	NS	6.1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	NS	NS	NS	NS	10,200	NS	NS	NS	NS	11,100	NS	NS	NS	18,500	NS	NS
Styrene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Toluene	NS	NS	NS	NS	NS	NS	NS	8.4	NS	NS	NS	NS	2.6 J	NS	NS	NS	5.1	NS	NS
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	NS	NS	NS	NS	31.1	NS	NS	NS	NS	32.3	NS	NS	NS	56.5	NS	NS

Location ID:	CO209-MWS ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	NS	NS	31.8 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	NS	NS	NS	NS	28.1	NS	NS	NS	NS	12.7	NS	NS	NS	12.8	NS	NS
Bromochloromethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	2.9 J	NS	NS	NS	NS	2.1 J	NS	NS	NS	5 U	NS	NS
Iodomethane	NS	NS	NS	NS	NS	NS	NS	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	NS	NS	4.7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	NS	NS	NS	NS	7,240	NS	NS	NS	NS	3,940	NS	NS	NS	1,730	NS	NS
Styrene	NS	NS	NS	NS	NS	NS	NS	9.6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Toluene	NS	NS	NS	NS	NS	NS	NS	11.5	NS	NS	NS	NS	5.2	NS	NS	NS	3.8 J	NS	NS
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	NS	NS	NS	NS	34	NS	NS	NS	NS	18.8	NS	NS	NS	11.9 J	NS	NS

Location ID:	CO27-PZM012 ug/L																		
1,1,1,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	25 U	25 U	25 U	NS	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	20.3 J	42.9 J	16.7 J	NS	27.4 J	50 U	50 U	36.4 J	28.3 J	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	20 U	20 U	20 U	NS	20 U	20 U	20 U	20 U	20 U	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	6,490	4,670	3,630	NS	13,500	13,000	11,600	11,900	3,700	9,470	7,750	12,700	9,230	8,490	8,340	11,000	13,000	8,700	12,000
Bromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	59.8	37.7	35.2	NS	121	141	162	132	39.1	86.5	47.4	28.2	64.5	101	98.9	116	180	100	160
Iodomethane	250 U	250 U	250 U	NS	250 U	250 U	250 U	250 U	250 U	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,000	620	960
Methyl tertiary-butyl ether	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	5 U	5 U	4.1 J	NS	5 U	5 U	5 U	4 J	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	482	293	316	NS	667	905	1,140	1,240	365	609	256	1,120	383	793	661	645	870	820	1,100
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	420	260	420

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	54.7	32.8	32.8	NS	126	138	176	136	29.4	75.6	38.3	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	1,130	744	854	NS	4,390	3,980	4,240	3,750	653	3,400	1,070	1,060	2,680	2,750	2,430	3,080	5,200	3,200	4,600
trans-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	25 U	25 U	25 U	NS	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	50 U	50 U	50 U	NS	50 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	511	327	308	NS	1,070	1,280	1,390	1,140	299	746	369	234	777	843	795	1,000	1,400	880	1,400

Location ID:	CO27-PZM046 ug/L																		
1,1,1,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	25 U	25 U	25 U	NS	25 U	25 U	5,000 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	50 U	50 U	50 U	NS	11.2 J	50 U	10,000 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	50 U	50 U	50 U	NS	50 U	50 U	10,000 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	50 U	50 U	50 U	NS	50 U	50 U	10,000 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	36.5 J	61.2	35.6 J	NS	180	50 U	10,000 U	41.2 J	36.4 J	50 U	74.4	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	20 U	20 U	20 U	NS	20 U	20 U	4,000 U	20 U	20 U	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	346,000	297,000	191,000	NS	172,000	42,200	29,800	31,000	28,200	18,800	18,400	22,300	15,600	8,620	18,700	19,800	17,000	13,000	12,000
Bromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	1.7 J	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	5 U	2.5 J	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	932	789	552	NS	443	272	1,000 U	273	207	95	81.4	46.6	202	107	247	263	240	190	160
Iodomethane	250 U	250 U	250 U	NS	250 U	250 U	50,000 U	250 U	250 U	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,300	1,100	1,000
Methyl tertiary-butyl ether	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	4.5 J	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	1,680	1,360	14,100	NS	1,400	1,330	11,200	1,580	1,120	516	327	290	847	3,680	1,450	4,460	950	1,200	930
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	520	460	440

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	204	160	141	NS	85.5	277	1,000 U	294	227	43.3	41.7	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	70,700	59,400	35,100	NS	30,900	9,880	4,850	4,910	5,620	3,270	5,120	1,450	5,560	2,650	6,180	7,000	6,800	5,600	4,400
trans-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	25 U	25 U	25 U	NS	25 U	25 U	5,000 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	50 U	50 U	50 U	NS	50 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	5 U	5 U	5 U	NS	5 U	5 U	1,000 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	23,900	16,300	7,360	NS	7,110	2,020	2,200 J	1,970	1,640	1,240	843	486	1,460	1,060	2,070	1,810	1,800	1,600	1,400

Location ID:	CO28-PZM010 ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	25 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	50 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	50 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	50 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	50 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	20 U	4 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	NS	NS	147,000	37.1	NS	NS	NS	NS	NS	1	NS	NS	NS	15	NS	NS
Bromochloromethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	5 U	1.7 B	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	NS	NS	319	1 U	NS	NS	NS	NS	NS	1 U	NS	NS	NS	0.5 U	NS	NS
Iodomethane	NS	NS	NS	NS	NS	250 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1 U	NS	NS
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	NS	NS	5,550	10.4	NS	NS	NS	NS	NS	2 U	NS	NS	NS	0.36 J	NS	NS
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1 U	NS	NS

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	NS	NS	NS	NS	NS	124	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	NS	NS	15,400	2.2	NS	NS	NS	NS	NS	1 U	NS	NS	NS	0.58 J	NS	NS
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	25 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	5 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	NS	NS	5,100	3 U	NS	NS	NS	NS	NS	3 U	NS	NS	NS	1 U	NS	NS

Location ID:	CO28-PZM048 ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	NS	NS	765 ML	169,000	NS	NS	NS	NS	NS	128,000	NS	NS	NS	150,000	NS	NS
Bromochloromethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	NS	NS	5 U	474	NS	NS	NS	NS	NS	290	NS	NS	NS	450 J	NS	NS
Iodomethane	NS	NS	NS	NS	NS	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,600	NS	NS
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	NS	NS	42.3	12,900	NS	NS	NS	NS	NS	2,750	NS	NS	NS	4,100	NS	NS
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,900	NS	NS

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	NS	NS	NS	NS	NS	5 U	166	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	NS	NS	101 ML	10,700	NS	NS	NS	NS	NS	5,670	NS	NS	NS	3,800	NS	NS
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	NS	NS	45.8	7,160	NS	NS	NS	NS	NS	5,850	NS	NS	NS	7,500	NS	NS

Location ID:	CO36-PZM008 ug/L																		
1,1,1,2-Tetrachloroethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	25 U	25 U	25 U	NS	5 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	50 U	50 U	50 U	NS	10 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	50 U	50 U	50 U	NS	10 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	50 U	50 U	50 U	NS	10 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	50 U	29.5 J	25.2 J	NS	193	50 U	42.9 J	50 U	29 J	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	20 U	20 U	20 U	NS	4 U	20 U	20 U	20 U	20 U	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	6,550	8,050	5,380	NS	11,200	9,710	6,780	7,190	10,000	24,000	11,900	9,050	38,700	17,700	20,400	19,000	5,360 1c	9,900	9,100
Bromochloromethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	5 U	5 U	5 U	NS	1.9	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	31	27.2	15.3	NS	44.6	47.4	30.4	23.7	46.1	99.6	45.4	18.7	61	61	89.5	17.1	17.9 1c	53	36
Iodomethane	250 U	250 U	250 U	NS	50 U	250 U	250 U	250 U	250 U	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	670	540
Methyl tertiary-butyl ether	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	5 U	5 U	4.4 J	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	239	311	248	NS	343	462	424	447	456	817	583	378	540	769 L1	943	233	226 1c	560	420
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	220	200

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	7.2	7.6	5.3	NS	12.5	11.6	9.1	7.5	12.9	27.3	14.3	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	1,360	1,610	1,160	NS	2,320	2,360	1,700	1,390	2,430	5,800	2,750	1,570	8,940	4,160	4,460	1,510	1,350 1c	2,700	2,000
trans-1,2-Dichloroethene	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	25 U	25 U	25 U	NS	5 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	50 U	50 U	50 U	NS	10 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	5 U	5 U	5 U	NS	1 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	520	642	536	NS	763	802	816	595	834	1,670	1,090	659	1,250	988	1,510	672	398 1c	890	740

Location ID:	CO36-PZM043 ug/L																		
1,1,1,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	25 U	25 U	25 U	NS	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	22.7 J	25.1 J	14.9 J	NS	196	50 U	50.5	29.2 J	30.7 J	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	20 U	20 U	20 U	NS	20 U	20 U	20 U	20 U	20 U	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	29,800	31,200	22,200	NS	22,400	20,200	16,400	21,600	16,400	7,910	22,000	2,750	14,100	22,800	26,700	55,700	15,100 1c	20,000	16,000
Bromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	5 U	5 U	5 U	NS	3.4 J	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	45.6	45.8	76.1	NS	66	71.5	80.7	68.7	45.5	13.1	45.8	5 U	5.3	42.9	56.2	58.2	40.7 1c	51	46 J
Iodomethane	250 U	250 U	250 U	NS	250 U	250 U	250 U	250 U	250 U	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	540	460
Methyl tertiary-butyl ether	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	5 U	5 U	4.2 J	NS	5 U	5 U	5 U	3.3 J	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	836	766	745	NS	517	792	750	764	566	191	527	131	187	835 L1	667	433	530 1c	720	560
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	200	180

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	10.6	10.1	19.6	NS	15.3	16	19.7	15.9	10.1	2.9 J	9.8	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	3,490	3,740	4,210	NS	3,550	3,620	3,160	4,080	2,330	1,130	3,110	263	841	3,160	3,710	8,150	2,050 1c	2,800	2,200
trans-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	25 U	25 U	25 U	NS	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	50 U	50 U	50 U	NS	50 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	739	735	1,150	NS	985	1,100	1,190	1,020	675	375	730	134	287	711	855	838	612 1c	740	640

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
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Location ID:	CO37-PZM003																			
	ug/L																			
Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	7,120	NS	NS	NS	7,050	NS	NS
Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	133	NS	NS	NS	125	NS	NS
Naphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,270	NS	NS	NS	1,050	NS	NS
Toluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,000	NS	NS	NS	2,840	NS	NS
Xylenes	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,310	NS	NS	NS	1,410	NS	NS

Location ID:	CO37-PZM038 ug/L																		
1,1,1,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	25 U	25 U	25 U	NS	25 U	NS	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	50 U	50 U	50 U	NS	50 U	NS	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	50 U	50 U	50 U	NS	50 U	NS	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	50 U	50 U	50 U	NS	50 U	NS	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	50 U	43.9 J	17.3 J	NS	258	NS	39.7 J	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	20 U	20 U	20 U	NS	20 U	NS	20 U	20 U	20 U	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	12,100	12,300	13,900	NS	17,600	NS	10,800	13,400	14,200	16,300	16,900	16,400	16,000	16,000	17,800	33,700	19,100 H1	16,000	11,000
Bromochloromethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	1.6 J	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	5 U	5 U	5 U	NS	5.1	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	248	243	244	NS	313	NS	306	289	268	273	262	217	268	281	279	257	249	240	220
Iodomethane	250 U	250 U	250 U	NS	250 U	NS	250 U	250 U	250 U	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,500	1,400
Methyl tertiary-butyl ether	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	5 U	5 U	4.5 J	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	1,330	1,370	1,370	NS	1,390	NS	1,800	1,930	1,770	1,430	1,200	1,210	1,850	15,600 L1	1,590	1,560	954	1,300	1,300
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	500	490

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	374	377	366	NS	470	NS	481	448	425	436	431	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	5 U	5 U	5 U	NS	5 U	NS	7	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	7,280	7,550	8,190	NS	9,520	NS	6,950	8,030	8,780	8,330	8,370	8,710	8,240	8,350	10,300	17,600	9,480 H1	7,800	6,500
trans-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	25 U	25 U	25 U	NS	25 U	NS	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	50 U	50 U	50 U	NS	50 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	5 U	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	2,020	2,040	1,930	NS	2,510	NS	2,450	2,300	2,220	2,260	2,160	1,910	2,320	2,420	2,370	2,130	1,970	2,000	1,900

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022	
Location ID:	CO38-PZM006 ug/L																			
1,1,1,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,1-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,2-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2,3-Trichloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dibromo-3-chloropropane	25 U	25 U	25 U	NS	25 U	25 U	25 U	25 U	5 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dibromoethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,4-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
2-Butanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	10 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	
2-Hexanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	1.4 J	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	
4-Methyl-2-pentanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	10 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	
Acetone	50 U	16.5 J	50 U	NS	117	50 U	50 U	42.3 J	15	50 U	56.9	NS	NS	NS	NS	NS	NS	NS	NS	
Acrylonitrile	20 U	20 U	20 U	NS	20 U	20 U	20 U	20 U	4 U	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS	
Benzene	4,690	5,060	4,660	NS	5,940	1,900	4,210	4,490	4,670	4,370	5,420	9,970	4,110	4,500	5,070	5,230	9,100 1c	3,400	3,300	
Bromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromodichloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromoform	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromomethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Carbon Disulfide	1.7 J	5 U	5 U	NS	5 U	5 U	5 U	2.5 J1	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Carbon Tetrachloride	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloroform	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
cis-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
cis-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Dibromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Dibromomethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Ethylbenzene	50.8	60.7	59	NS	65.2	34.4	74.3	64	64	57.5	54.3	52	46.1	59.3	58.7	56.4	52.4 1c	38	44	
Iodomethane	250 U	250 U	250 U	NS	250 U	250 U	250 U	250 U	50 U	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS	
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	180	220	
Methyl tertiary-butyl ether	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Methylene Chloride	5 U	5 U	5.3	NS	5 U	5 U	5 U	4.1 J	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Naphthalene	1,170	1,370	1,520	NS	1,280	651	1,740	2,110	1,990	1,460	1,360	1,140	981	1,620	1,660	1,180	1,570 1c	890	800	
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	76	100	

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	35.9	45.5	48.1	NS	35.1	5	51.2	46.9	43.2	39.9	35.9	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	920	1,040	1,100	NS	859	133	1,260	1,020	1,070	984	1,300	1,080	800	871	1,130	1,210	936 1c	400	630
trans-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	25 U	25 U	25 U	NS	25 U	25 U	25 U	25 U	5 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	50 U	50 U	50 U	NS	50 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	443	496	490	NS	479	108	561	507	503	450	452	420	373	446	462	464	409 1c	260	320

Location ID:	CO38-PZM043 ug/L																		
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	10 U	10 U	10 U	NS	2.4 J	10 U	10 U	3.6 J	5.9 J	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	10 U	10 U	10 U	NS	10 U	10 U	10 U	2.8 JMH	3.3 J	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	10 U	10 U	10 U	NS	0.47 J	10 U	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	3.3 J	3.1 J	10 U	NS	217	10 U	10 U	9.1 J	27.6	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	4 U	4 U	4 U	NS	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	4	0.45 J	0.4 J	NS	3.4	19.2	0.54 J	1.5 C8P2	1.1	1 U	1 U	1 U	1.8	0.76 J	1 U	1 U	1 1c	2	0.5 U
Bromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	1 U	1 U	1 U	NS	1 U	1 U	0.88 JBML	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	0.32 J	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	0.27 J	1 U	1 U	NS	0.45 J	0.33 J	1 U	0.4 J	1 U	0.39 J	0.32 J	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	1 U	1 U	1 U	NS	3.8	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	0.5 U
Iodomethane	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.82 J	0.6 J
Methyl tertiary-butyl ether	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	5.8	2 U	2 U	NS	2 U	2.9	30.5 C8ML	2 U	2 U	2 U	2 U	2 U	9.4	2 U	2 U	2 U	4 U	1 U	0.68 J
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1 U	1 U

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	1	1 U	1 U	NS	0.46 J	1.1	0.33 J	0.53 J	1 U	1 U	1 U	1 U	0.35 J	1 U	1 U	1 U	1 U	0.89	0.75 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	1 U	1 U	NS	1 U	0.34 JB	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	NS	10 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	1.6 J	3 U	3 U	NS	3 U	2.4 J	1.4 J	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	2.1 J	3 U	0.82 J	0.6 J

Location ID:	CO39-PZM007 ug/L																		
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	NS	5 U	5 U	25 U	25 U	5 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	10 U	10 U	10 U	NS	10 U	10 U	50 U	50 U	10 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	10 U	10 U	10 U	NS	10 U	10 U	50 U	50 U	1.6 J	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	10 U	10 U	10 U	NS	10 U	10 U	50 U	50 U	10 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	3 J	10 U	10 U	NS	10.7	7.2 J	31.6 J	50 U	19.7	50 U	39.5 J	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	4 U	4 U	4 U	NS	4 U	4 U	20 U	20 U	4 U	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	664	381	282	NS	767	8,990	1,350	657	455	3,850 MH	515	249	3,120	7,320	NS	891	486 1c	1,000	1,300
Bromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	4.1	2.2	0.99 J	NS	4.7	52.9	12.6	4.3 J	2	32.2	5 U	5 U	6.9	21.8	39.5	3.8 J	5 U	4.6 J	7
Iodomethane	50 U	50 U	50 U	NS	50 U	50 U	250 U	250 U	50 U	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	22	32
Methyl tertiary-butyl ether	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	1 U	1 U	1	NS	1 U	1 U	5 U	3.8 J	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	1,180	902	433	NS	1,540	2,770	970	1,120	251	1,550 ML	548	171	353	1,020 L1	1,340	177	125 1c	460	420
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	13	20

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	3	1 U	0.55 J	NS	4.9	65.4	10.5	3.5 J	1.5	44.4	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	79	24.8	9.9	NS	126	1,980	295	98.6	45	1,230 ML	27.2	12.2	487	1,080	1,640	123	36.8 1c	140	160
trans-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	NS	5 U	5 U	25 U	25 U	5 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	NS	10 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	1 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	23.6	12	4.7	NS	48	472	90.8	32.7	11.9	265	6.8 J	15 U	58	195	374	35	8.7 J1c	35	52

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022	
Location ID:	CO39-PZM042 ug/L																			
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,1-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,2-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2,3-Trichloropropane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	NS	5 U	5 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dibromoethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichloropropane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,4-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
2-Butanone	10 U	10 U	10 U	NS	10 U	10 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	
2-Hexanone	10 U	10 U	10 U	NS	10 U	10 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	
4-Methyl-2-pentanone	10 U	10 U	10 U	NS	10 U	10 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	
Acetone	3.2 J	3.4 J	10 U	NS	64.4	10 U	46.4 J	50 U	30.1 J	50 U	51.7	NS	NS	NS	NS	NS	NS	NS	NS	
Acrylonitrile	4 U	4 U	4 U	NS	4 U	4 U	20 U	20 U	20 U	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS	
Benzene	6,040	3,720	1,290	NS	7,900	20,500	5,710	6,280	3,080	735	2,570 H5ML	10,300	12,000	8,640	9,520	3,690	6,810 1c	6,300	5,900	
Bromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromodichloromethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromoform	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromomethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Carbon Disulfide	2.1	1 U	1 U	NS	0.39 J	0.98 J	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Carbon Tetrachloride	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloroethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloroform	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloromethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
cis-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
cis-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Dibromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Dibromomethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Ethylbenzene	70.7	37.7	12.3	NS	55.9	165	64.7	63.7	22.3	4.3 J	21.9	102	68	59	70.4	21.6	21.3 1c	70	38	
Iodomethane	50 U	50 U	50 U	NS	50 U	50 U	250 U	250 U	250 U	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS	
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	390	210
Methyl tertiary-butyl ether	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Methylene Chloride	1 U	1 U	0.86 J	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Naphthalene	1,840	1,970	1,280	NS	9,820	7,040	1,990	1,610	1,090	722	1,420 ML	705	1,270	1,590 L1	1,420	666	1,870 1c	1,600	1,200	
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	190	110	

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	98.9	55.3	16.4	NS	81.4	215	97.7	93.6	29	5 U	26.8	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	2,240	1,320	377	NS	2,120	6,380	2,260	1,980	882	105	960 ML	3,450	3,150	1,920	2,150	563	846 1c	2,300	1,200
trans-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	NS	5 U	5 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	NS	10 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	NS	1 U	1 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	580	323	117	NS	542	1,430	546	524	187	27.4	182	869	624	503	595	174	196 1c	580	320

Location ID:	CO40-PZM008 ug/L																		
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	10 U	10 U	10 U	NS	10 U	10 U	10 U	1.7 J	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	10 U	10 U	10 U	NS	10 U	10 U	10 U	0.7 J	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	3.1 J	4.3 J	10 U	NS	52.2 MLR1	10 U	10 U	5.9 J	11	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	4 U	4 U	4 U	NS	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	5,690	1,340	40.5	NS	241 ML	3,900	137	3,250	629	799	1,450	1,450	5,050	664	NS	2,360	3,740 1c	8,300	5,400
Bromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	0.71 J	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	105	17.3	1 U	NS	1.6	70.6	1.3	48.6	5.8	5.7	4	8.7	61.3	3.5	20.8	18	21.3 1c	80	53
Iodomethane	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	340	270
Methyl tertiary-butyl ether	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	2,190	1,720	16	NS	61.3	3,340	68.2	2,310	335	179	303	1,220	2,260	336	1,570	3,720	1,600 1c	1,100	1,900
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	150	140

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	70.2	19.7	1 U	NS	1 U	60.9	1 U	46.2	5.1	4.1	3.2	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	1,670	344	4.7	NS	19.8	1,230	19.6	898	134	145	78	197	712	75.7	291	337	546 1c	1,900	1,100
trans-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	1 U	1 U	NS	1 U	0.43 JB	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	NS	10 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	614	153	2.8 J	NS	16.4	540	8.4	353	44.7	35.9	64.4	68.1	367	25.1	153	154	186 1c	490	410

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022	
Location ID:	CO41-PZM001			ug/L																
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,1-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,2-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2,3-Trichloropropane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dibromoethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichloropropane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,4-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
2-Butanone	10 U	10 U	10 U	NS	6.7 J	10 U	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	
2-Hexanone	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	0.63 J	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	
4-Methyl-2-pentanone	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	
Acetone	10 U	5.9 J	10 U	NS	24.1 B	8.2 J	10 U	10 U	10	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	
Acrylonitrile	4 U	4 U	4 U	NS	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NS	NS	NS	NS	NS	NS	NS	NS	
Benzene	338	252	1.7	NS	2,520	4,470	6,500	1,190	546	43.8	5.8	7.3	1,740	124	17,400 M5	2,130	1,880 1c	18,000	29,000	
Bromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromodichloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromoform	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromomethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Carbon Disulfide	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Carbon Tetrachloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloroform	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
cis-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
cis-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Dibromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Dibromomethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Ethylbenzene	20.5	22.2	1 U	NS	137	144	257	41.8	45.8	3.1	1 U	0.52 J	85.8	3.6	564 M5	63.2	53.3 1c	660	640	
Iodomethane	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5,700	5,500	
Methyl tertiary-butyl ether	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Methylene Chloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Naphthalene	12	9.4	2 U	NS	75.7	103	133	109	30.5	2 U	2 U	14.3	29.3	3.4	332 M5	23.2	22.5 J1c	440	340	
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,100	1,100	

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	1 U	1 U	1 U	NS	1 U	4.7	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	327	285	0.6 J	NS	1,520	2,110	3,930	625	553	17	6.7	2.2	1,200	44.5	11,200 M5	1,230	1,110 1c	11,000	13,000
trans-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	NS	10 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	203	177	3 U	NS	850	1,200	1,890	288	413	14.6	2.6 J	1.4 J	760	25.2	5,190 M5	524	421 1c	6,800	6,600

Location ID:	CO41-PZM036 ug/L																		
1,1,1,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	0.95 J	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	25 U	25 U	25 U	NS	25 U	25 U	25 U	5 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	10 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	10 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	10 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	50 U	51.1	50 U	NS	76.9 B	50 U	50 U	6.5 J	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	20 U	20 U	20 U	NS	20 U	20 U	20 U	4 U	20 U	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	189,000	245,000	224,000	NS	213,000	225,000	169,000	196,000	206,000	231,000	251,000	288,000	283,000	272,000	351,000	447,000	230,000 1c	200,000	190,000
Bromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	2.8 J	5 U	1.8 J	NS	1.9 J	5 U	5 U	2.1	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	5 U	2.1 J	5 U	NS	5 U	5 U	5 U	3.1	5 U	5 U	3.2 J	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	658	580	520	NS	675	919	898	847	661	657	684	628	6.2	774	880	732	1,020 1c	870	930
Iodomethane	250 U	250 U	250 U	NS	3.8 J	250 U	250 U	50 U	250 U	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	13,000	14,000
Methyl tertiary-butyl ether	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	5 U	5 U	4.9 J	NS	4.6 JB	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	385	327	382	NS	328	430	423	380	325	295	357	370	195	418	290	298	336 1c	1,000 U	680 J
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3,800	4,600

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	362	319	308	NS	362	459	462	446	370	356	422	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	55,700	66,700	71,800	NS	67,800	81,800	65,700	66,600	67,600	71,100	76,200	168,000	893	90,700	118,000	614,000	99,600 1c	82,000	76,000
trans-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	25 U	25 U	25 U	NS	25 U	25 U	25 U	5 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	5 U	4 J	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	50 U	50 U	50 U	NS	50 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	5 U	5 U	5 U	NS	5 U	5 U	5 U	1 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	16,900	13,300	11,300	NS	12,100	20,600	15,600	16,100	13,500	13,600	14,500	28,300	308	16,700	27,300	129,000	20,600 1c	17,000	19,000

Location ID:	CO42-PZM004 ug/L																		
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	10 U	10 U	10 U	NS	2.3 J	10 U	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	7.2 J	23.6	10 U	NS	163	6.7 J	10 U	10 U	7.3 J	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	4 U	4 U	4 U	NS	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	294	5.8	1.1	NS	331	138	27.5	81.2	3	187	6.1	1 U	15.9	59.4	169	3.4	30.7	160	90
Bromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	1 U	1 U	1 U	NS	1 U	0.78 JB	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	0.87 J	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	1 U	1 U	1 U	NS	3.5	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	56.2	5.1	1 U	NS	62	23.6	5.9	8.4	1 U	42.1	2.1	1 U	4.3	14.7	30.2	1 U	4	14	15
Iodomethane	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	92	75
Methyl tertiary-butyl ether	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	210	5.9	2 U	NS	208	168	31.6	45.6	9.7	154	4.9	2 U	9.3	66.7	109	2 U	14.6	73	70
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	62	49

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	53	4.2	1 U	NS	51.6	24.3	3.9	4.4	1 U	33.5	1.4	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	615	10	1.4	NS	595	231	35.7	46.8	2.9	462	7	1 U	24.4 ML	48.7	36	6.5	26.5	270	77
trans-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	1 U	1 U	NS	1 U	0.3 JB	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	NS	10 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	409	39.5	1.4 J	NS	627	318	121	128	7.4	286	9.2	3 U	37.2	84.9	129	2.6 J	26.9	150	120

Location ID:	GD01-MWI																			
	ug/L																			
Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10	10.3	16.9	NS	19	NS	11
Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1 U	1 U	1 U	NS	0.5 U	NS	0.5 U
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1 U	NS	1 U
Naphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2 U	2 U	2 U	NS	1 U	NS	0.35 J
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1 U	NS	1 U
Toluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1 U	1 U	0.41 J	NS	0.75 U	NS	0.42 J
Xylenes	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3 U	3 U	3 U	NS	1 U	NS	1 U

Location ID:	GD02-MWI																			
	ug/L																			
Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	78,200	71,200	127,000	NS	87,000	NS	150,000
Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	452	344	546	NS	460 J	NS	420 J
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,000 U	NS	670 J
Naphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,840	3,530 CH	1,910	NS	1,200	NS	680 J
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,000 U	NS	830 J
Toluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	24	84.7	339	NS	750 U	NS	2,000
Xylenes	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	575	208	327	NS	1,000 U	NS	1,500 J

U: Non-Detect, NS: Not Sampled



Coke Oven Historical Data - Cell 3 Groundwater Analytical Results

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022	
Location ID:	CO194-MWS		ug/L																	
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	75.4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	1,290 ML	NS	1,160	NS	NS	NS	NS	NS	NS	800	823	944	NS	617 H11c	NS	740	NS
Bromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	4.8 J	NS	4.8 J	NS	NS	NS	NS	NS	NS	4.5 J	5.2	5 J	NS	4.1 JH11c	NS	4.1 J	NS
Iodomethane	NS	NS	NS	NS	NS	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	42

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	4,400 B1c	NS	2,450	NS	NS	NS	NS	NS	NS	2,240	7,540 CH	3,260	NS	2,960 H11c	NS	2,900
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Styrene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	160	NS	141	NS	NS	NS	NS	NS	NS	108	119	144	NS	105 H11c	NS	120
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	75.1	NS	70.9	NS	NS	NS	NS	NS	NS	60.4	65.9	73.9	NS	57.6 1c	NS	65

Location ID:	CO195-MWS ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	46,300	NS	54,100	NS	NS	NS	NS	NS	67,300	18,000	53,900	59,000	49,000	105,000	38,000	41,000
Bromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	83.5	NS	85.3	NS	NS	NS	NS	NS	69.6	21.8	76.2	82.3	76	66.3	200 U	200 U
Iodomethane	NS	NS	NS	NS	NS	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	610	540
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	5,530 B1c	NS	4,850	NS	NS	NS	NS	NS	1,650	493	3,940 CH	2,400	2,760	1,340	1,900	1,500
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	250 J	240 J

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	NS	NS	NS	NS	NS	16.1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	4,140	NS	4,320	NS	NS	NS	NS	NS	5,540	1,220	3,350	4,340	3,860	7,600	3,100	3,000
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	1,120	NS	1,170	NS	NS	NS	NS	NS	930	305	980	1,160	1,160	855	860 J	780 J

Location ID:	CO196-MWS ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	4 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	16,400	NS	11,200	NS	NS	NS	NS	NS	24,400	13,200	16,500	NS	20,300 H11c	NS	7,300	
Bromochloromethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	33.6	NS	19.3	NS	NS	NS	NS	NS	26.7	20.9	21.8	NS	15.1 H11c	NS	15 J	
Iodomethane	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	110
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	3,400 L1B	NS	2,420	NS	NS	NS	NS	NS	591	1,190 CH	969	NS	541 H11c	NS	460	
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	54

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	NS	NS	NS	NS	NS	5.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	1,330	NS	978	NS	NS	NS	NS	NS	NS	1,370	836	1,080	NS	670 H11c	NS	500
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	395	NS	253	NS	NS	NS	NS	NS	NS	329	239	240	NS	189 1c	NS	160

Location ID:	CO198-MWS ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	60.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	748	NS	841	NS	NS	NS	NS	NS	677	636	697	NS	282	NS	280	NS
Bromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	4.6 J	NS	4.3 J	NS	NS	NS	NS	NS	5.4	4.7 J	5.7	NS	2.6 J	NS	2.3 J	NS
Iodomethane	NS	NS	NS	NS	NS	250 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	24
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	4,650 B1c	NS	3,170	NS	NS	NS	NS	NS	5,590	17,000 CH	3,490	NS	1,320	NS	2,000	NS
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	145	NS	124	NS	NS	NS	NS	NS	NS	115	111	129	NS	65.1	NS	62
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	25 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	71.3	NS	59.6	NS	NS	NS	NS	NS	NS	62.5	60.3	66.1	NS	37.4	NS	36

Location ID:	CO201-MWS ug/L																		
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	NS	NS	NS	NS	NS	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	NS	NS	NS	NS	NS	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	NS	NS	NS	NS	NS	4 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	NS	NS	145	NS	1,720	NS	NS	NS	NS	NS	2,420	3,880	13,900	NS	2,280	NS	1,800	
Bromochloromethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	0.97 J	NS	4.9	NS	NS	NS	NS	NS	5.3	6.5	19.7	NS	6	NS	4.1 J	
Iodomethane	NS	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	47
Methyl tertiary-butyl ether	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	4,840 B1c	NS	168	NS	NS	NS	NS	NS	276	692 CH	702	NS	227	NS	240	
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	23

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	NS	NS	NS	NS	NS	0.97 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	12.7	NS	130	NS	NS	NS	NS	NS	NS	266	272	904	NS	189	NS	120
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	NS	NS	NS	NS	NS	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	NS	NS	NS	9.8	NS	61	NS	NS	NS	NS	NS	NS	93.1	106	245	NS	89.8	NS	70

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022	
Location ID:	CO30-PZM015 ug/L																			
1,1,1,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,1-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,2-Trichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2,3-Trichloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dibromo-3-chloropropane	25 U	25 U	25 U	NS	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dibromoethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,4-Dichlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
2-Butanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	
2-Hexanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	
4-Methyl-2-pentanone	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	
Acetone	50 U	50 U	23.9 J	NS	167	50 U	32.8 J	28.4 J	50 U	50 U	35 JH1	NS	NS	NS	NS	NS	NS	NS	NS	
Acrylonitrile	20 U	20 U	20 U	NS	20 U	20 U	20 U	20 U	20 U	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS	
Benzene	25,500	70,300	51,000	NS	69,900	53,300	56,300	63,900	59,300	66,400	75,800 H1	98,700	64,000	678	57,000	62,800	134,000	54,000	62,000	
Bromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromodichloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromoform	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromomethane	5 U	5 U	5 U	NS	5 U	5 U	7.4 CL	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Carbon Disulfide	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Carbon Tetrachloride	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chlorobenzene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloroethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloroform	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloromethane	5 U	5 U	5 U	NS	5.5	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
cis-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
cis-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Dibromochloromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Dibromomethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Ethylbenzene	39.9	111	87.3	NS	117	84.8	133	121	93.9	89.7	130 H1	105	95.2	5 U	94.6	107	96.1	120 J	110 J	
Iodomethane	250 U	250 U	250 U	NS	250 U	250 U	250 U	250 U	250 U	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS	
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1,000	860
Methyl tertiary-butyl ether	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Methylene Chloride	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
Naphthalene	1,020	4,660	2,710	NS	9,090	8,640	5,540	17,100	2,320	1,830	3,130 H1	8,420	1,790	542 CH	2,300	4,810	1,650	2,100	2,000	
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	460 J	400 J	

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	5.4	16	13.9	NS	15.1	11.7	17.7	17.1	11.5	12.5	14.7 H1	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	1,410	5,460	3,890	NS	5,110	4,560	4,240	4,710	4,100	4,800	5,550 H1	7,990	16,300	49.1	4,650	5,720	9,830	4,300	4,400
trans-1,2-Dichloroethene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	25 U	25 U	25 U	NS	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	4.7 J	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	50 U	50 U	50 U	NS	50 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	572	1,500	1,190	NS	1,590	1,230	1,840	1,650	1,310	1,200	1,910	1,480	1,360	17.9	1,380	1,670	1,250	1,500 J	1,300 J

Location ID:	CO30-PZM060 ug/L																		
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	10 U	10 U	10 U	NS	10 U	10 U	10 U	1.9 J	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	10 U	10 U	10 U	NS	10 U	10 U	1.3 J	1.2 J	1.5 J	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	10 U	3.1 J	4.7 J	NS	187	10 U	5.8 J	10 U	9.5 J	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	4 U	4 U	4 U	NS	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	80.4	22.2	4.2	NS	85.5	321	49.8 MH	9	7.5	15	19.5 H1	NS	9.2	NS	NS	NS	4.4	NS	NS
Bromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	0.77 JH11c	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	0.38 J	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	1 U	1 U	1 U	NS	4.9	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	1 U	1 U	1 U	NS	1 U	0.62 J	1 U	1 U	1 U	1 U	1 U	NS	1.9	NS	NS	NS	1 U	NS	NS
Iodomethane	50 U	50 U	50 U	NS	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Methyl tertiary-butyl ether	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	2 U	2 U	2 U	NS	1.5 J	29	2 U	19.2	2 U	2 U	2 U	NS	1.3 J	NS	NS	NS	4 U	NS	NS
Styrene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS

U: Non-Detect, NS: Not Sampled

Parameter	9/1/2018	12/1/2018	3/1/2019	5/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Toluene	1.8	1 U	1 U	NS	2	20.6	1 U	1 U	1 U	1 U	1 U	NS	23.3	NS	NS	NS	1 U	NS	NS
trans-1,2-Dichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	NS	10 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	3 U	3 U	3 U	NS	3 U	9.6	3 U	3 U	3 U	3 U	3 U	NS	11.2	NS	NS	NS	3 U	NS	NS



Coke Oven Historical Data - Cell 5 Groundwater Analytical Results

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Location ID:	CO23-PZM008																		
	ug/L																		
1,1,1,2-Tetrachloroethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	25 U	25 U	500 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	50 U	50 U	1,000 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	50 U	50 U	1,000 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	50 U	50 U	1,000 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	37.2 JB	17.7 J	1,000 U	27.9 J	28.9 JB	50 U	79	43.4 J	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	20 U	20 U	400 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	403	163	264	460	404	152	599	666	431	473	495	489	567	377	606	533	510	450	580
Bromochloromethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	5 U	5 U	100 U	5 U	5 U	5.1 R1	8.7 CL	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	5 U	2.2 J	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	16.8	10	100 U	22.5	19.6	8.9	27.8	28.6	21.3	18.6	24.7	25	31.5	23.3	32.6	27.4	27	24	27
Iodomethane	250 U	250 U	5,000 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	360	300	340

U: Non-Detect, NS: Not Sampled

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Methyl tertiary-butyl ether	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	5 U	5 U	160 B	5 U	4.2 JB	5 U	5 U	4.6 J	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	2,630	3,870	5,800	2,760	1,720	1,620 MH	3,250	5,950	3,200	1,860	2,460 L1BE	4,090	2,770	4,450	4,120	2,900	3,100	3,500	4,500
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	150	120	140
Styrene	8.4	5.7	100 U	17.3	15.8	3.7 J	25.4	27.6	16.7	15	22.9	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	26.8	20.3	56.8 J	197	181	30.7	303	344	201	172	244	293	357	217	343	324	260	280	310
trans-1,2-Dichloroethene	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	25 U	25 U	500 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	5 U	3.6 J	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	50 U	50 U	1,000 U	50 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	5 U	5 U	100 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	265	152	150 J	332	314	140	431	465	363	289	399	434	539	374	525	457	510	420	480

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022	
Location ID:	CO24-PZM007																			
	ug/L																			
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
2-Butanone	10 U	10 U	10 U	10 U	3.4 J	10 U	10 U	3.9 J	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.7 J	1.2 J	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	
Acetone	14.4 B	9 J	41.4	11.2	16.7 B	18.1	10 J	16	15.8	10.4	16.4 M5	NS	NS	NS	NS	NS	NS	NS	NS	
Acrylonitrile	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NS	NS	NS	NS	NS	NS	NS	NS	
Benzene	2.6	2.9	1.8 C8	1.5 C8	1.3	160	1 U	3	3.2	2.1	1.3 M5	2.2	2.9	2.3	2.3	3.7	4.4	10 U	5.2 J	
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Bromomethane	1.3	1 U	1 U	1 U	1 U	0.83 J	1 JCL	1 U	1 JCL	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Carbon Disulfide	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Carbon Tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chlorobenzene	1 U	0.35 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Chloromethane	1 U	1 U	1.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
cis-1,2-Dichloroethene	1 U	0.78 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Ethylbenzene	6.8	8.6	8.8	5.4	5.7	6	4.5	5.2	4.6	2.8	3.2 M5	2.8	1.9	3.6	2.1	2.9	3.1	10 U	10 U	
Iodomethane	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	1.2 JIHM5	NS	NS	NS	NS	NS	NS	NS	NS	
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	20 U	20 U	
Methyl tertiary-butyl ether	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Methylene Chloride	1.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	
Naphthalene	2,090	3,860	4,220	2,190	3,230	4,070	2,190	3,250	2,620	1,110 CL	9,230 M5	3,780	1,320	6,510	2,390	1,530	2,770	1,800	2,700	
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	20 U	20 U	

U: Non-Detect, NS: Not Sampled

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	1 U	1 U	1 U	0.56 J	1 U	1 U	1 U	0.55 J	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	2.9	2.5	2.1 C8	1.3	1.2	37.3	1.6	1.9	1.9	1.3	1 M5	1.4	1.9	1.4	1.4	1.9	2	15 U	15 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	9.3	11.5	10.9	7.2	7.4	21.5	5.9	7.3	6.7	4.1	3.3 M5	4.3	3.5	4.3	3	4.5	4.4	20 U	20 U

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Location ID:	CO26-PZM007 ug/L																		
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	10 U	10 U	10 U	10 U	10 U	NS	10 U	2.8 J	4.3 J	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	10 U	10 U	10 U	10 U	10 U	NS	2.8 J	2.4 J	1.9 J	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	10 U	6.8 J	10 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	10 U	2.9 J	5.7 J	10 U	4.8 JB	NS	11.4	11	27.9	10 U	16.2 M5	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	4 U	4 U	4 U	4 U	4 U	NS	4 U	4 U	4 U	4 U	4 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	281	205	276	98.2	201	NS	314	3.4	163	331	3.5 M5	94.3	43.6 ML	165	327	331	NS	120	210
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	1 U	1 U	1 U	1 U	2	NS	2.1 B	1 U	1 U	1 U	0.76 JM5	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	NS	0.78 J	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	8.6	10.9	12.4	4.2	9.8	NS	14.1	1 U	6.1	10.9	1 U	3.5	1.9	6	10.7	10.6	NS	4.1	6.1
Iodomethane	50 U	50 U	50 U	50 U	2.6 J	NS	50 U	50 U	50 U	50 U	0.94 JIHMS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	68	98
Methyl tertiary-butyl ether	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	1.6	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	2,020	3,580	3,720	961	2,590	NS	3,390	43.7	2,030	2,170 CL	33.8 M5	966	409 MLR1	1,840	2,880	3,380 CL	NS	960	1,400
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	26	40

U: Non-Detect, NS: Not Sampled

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	56.2	57.5	63.6	18.6	29	NS	64.8	0.75 J	36.3	64.6	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	153	130	142	51.4	117	NS	179	1.1	82.8	182	1.4 M5	43.9	16.8 ML	87	179	175	NS	62	93
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	10 U	10 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	205	236	259	84.5	207	NS	300	4	141	244	1.8 JM5	74.7	42.4	153	250	258	NS	94	140

Location ID:	CO55-PZM000 ug/L																		
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	10 U	10 U	10 U	10 U	2.6 J	10 U	10 U	50 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U	1.8 J	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	6.3 JB	6.9 J	31.6	8.7 J	320	15.4	10 U	28.8 J	11.7	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	4 U	4 U	4 U	4 U	4 U	4 U	4 U	20 U	4 U	4 U	4 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	1 U	38	1 U	6	3.5	23.5	1 U	222	1.2	1 U	1 U	1 U	1 U	0.63 J	1.6	74	1 U	0.39 J	0.17 J
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	1 U	1 U	1 U	1 U	5.2 B	4.2	1.2 CL	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	1 U	1 U	1.1	1 U	1 U	1.9	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	1 U	1.7	1 U	1 U	1 U	0.63 J	1 U	7.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.9	1 U	0.5 U	0.5 U
Iodomethane	50 U	50 U	50 U	50 U	2.1 J	50 U	50 U	250 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.34 J	1 U
Methyl tertiary-butyl ether	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	2 U	141	2 U	8.9	5.8	45.4	1.7 J	1,920	3.4	2 U	2 U	2 U	11.8	2.8	5.4	245 CL	4 U	3.8	0.49 J
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1 U	1 U

U: Non-Detect, NS: Not Sampled

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	1 U	0.88 J	1 U	1 U	1 U	0.43 J	1 U	30.8	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	1 U	8.6	1 U	0.82 J	3.8	7.6	0.32 J	12.5	0.41 J	1 U	1 U	1 U	1 U	0.47 J	1.2	38	1 U	0.27 J	0.75 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	10 U	10 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	3 U	23.7	3 U	3 U	4.2	10.6	3 U	158	3 U	3 U	3 U	3 U	3 U	3 U	1.5 J	49.5	3 U	0.34 J	1 U

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Location ID:	CO56-PZP001 ug/L																		
1,1,1,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	29.2 JB	18 J	65	50 U	70.1 B	28.2 J	77.3	42.8 J	31.7 J	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	319	192	203	246	229	248	361	266	352	224	255	237	208	244	300	245	291	200	360
Bromochloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	5 U	5 U	5 U	5 U	5 U	11	12 CL	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	5 U	1.4 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	12.8	8.5	8.8	9.4	8.2	8.6	10.5	8.6	11.7	10.1	10.7	9.4	8.5	7.5	10.4	9.2	10.3	7.2 J	11
Iodomethane	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	120	190
Methyl tertiary-butyl ether	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	5 U	5 U	5 U	5 U	4.4 JB	5 U	5 U	4.4 J	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	2,800	1,870	3,290	2,400	1,930	2,200 MHML	2,790	3,750	3,250	1,470	NS	2,660	1,970	NS	NS	2,310 CL	1,810	2,000	3,000
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	44	73

U: Non-Detect, NS: Not Sampled

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	46	34.6	43.3	52.2	41.2	38.9	86	57.2	58.6	27.6	58.8	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	177	18.3	45.7	117	88.1	61.4	122	89	157	21.3	95.5	129	108	73.1	91.6	87.9	173	53	75
trans-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	5 U	2.3 J	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	50 U	50 U	50 U	50 U	50 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	266	190	182	200	186	190	258	197	251	195	235	217	176	150	244	183	216	160	260

Location ID:	CO57-PZP002 ug/L																		
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	10 U	10 U	10 U	10 U	3.7 J	10 U	10 U	2.6 J	7.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.7 J	2.7 J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	9.1 JB	4.1 J	35.8	10 U	321	9.1 J	6 J	7.8 J	41.6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	1 U	1 U	1 U	1 U	1 U	2.4	1 U	1 U	1 U	NS	NS	NS	NS	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	2.4	1 U	0.94 J	0.86 JCL	2.5	0.92 J	2.3 CL	1 U	1.4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	1 U	1 U	0.98 J	1 U	3.2	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U
Iodomethane	50 U	50 U	50 U	0.69 JCL	3.2 J	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1 U	1 U	1 U
Methyl tertiary-butyl ether	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	2 U	0.93 J	2 U	2 U	10.6	4.6	1.2 J	2.1	1.8 J	NS	NS	NS	NS	2 U	2 U	2 U	0.3 J	1 U	1 U
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1 U	1 U	1 U

U: Non-Detect, NS: Not Sampled

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	1 U	1 U	1 U	1 U	0.45 J	0.74 J	1 U	1 U	1 U	NS	NS	NS	NS	1 U	1 U	1 U	0.25 J	0.75 U	0.75 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	NS	NS	NS	NS	3 U	3 U	3 U	1 U	1 U	1 U

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Location ID:	CO58-PZM001																		
	ug/L																		
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	1 U	1 U	1 U	0.4 J	0.56 J	1 U	1 U	0.37 J	1 U	0.68 J	0.9 JM5	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4.1 J	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2.8 J	0.98 J	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	8.3 JB	3.4 J	3.1 J	10 U	72.2	6.8 J	10 U	15.8	20.5	10 U	17.1 M5	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	185	41.4	195	114	180	174	224	189	224	237	243 M5	81.2	122	57.5	177	128	1 U	72	190
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	1 U	1 U	1 U	1 U	0.62 J	1.1	1.7 CL	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.38 J	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	1 U	1 U	1 U	1 U	0.82 J	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	1 U	0.26 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	9.1	2.4	9.2	5.2	7.9	9.4	10.9	8.9	10.3	10.6	11.4 M5	5.2	6.3	3.2	9.1	5.4	1 U	3.4	8
Iodomethane	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	46	99
Methyl tertiary-butyl ether	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	1,540	681	2,140	701	1,320	1,870	1,250	3,060	1,940	1,950 CL	8,170 M5	905	1,350	662	698	1,200 CL	4 U	770	1,600
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	18	45

U: Non-Detect, NS: Not Sampled

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	28.6	2.8	22.3	8.1	14.9	21.5	23	21.1	26.3	22.8	27.9 M5	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	59.9	13.3	41.5	30.3	51.7	75.4	92.5	75.6	89.6	63.3	68.5 M5	20.2	27.8	10.4	55.4	43.2	1 U	26	69
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	0.52 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	155	42.4	149	76.6	123	156	180	142	174	166	197 M5	74.8	101	41.6	142	91.1	3 U	64	140

Location ID:	CO59-PZP002 ug/L																		
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	1 U	1 U	1 U	0.32 J	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	10 U	10 U	10 U	10 U	3.1 J	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1.6 J	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	0.89 J	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	8.6 JB	4 J	30.4 R1	6.2 J	304	6.2 J	10 U	7.7 J	9.2 J	9.3 J	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	1 U	0.61 J	17.5	1 U	2.4	4.6	7.4	1 U	17	1 U	NS	NS	1 U	2.2	231	1 U	1 U	13	13
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	1 U	1 U	0.65 J	1 U	1.6	1.8	2.2 CL	1 U	1.5 CL	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	1 U	1 U	0.78 J	1 U	1.5	1.5	1 U	1 U	1.1	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	1 U	1 U	1.3	1 U	1 U	1 U	1 U	1 U	0.9 J	1 U	NS	NS	1 U	0.48 J	11	1 U	0.41 J	0.54	0.62
Iodomethane	50 U	50 U	50 U	50 U	3.2 J	50 U	50 U	50 U	50 U	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6.3	6.6
Methyl tertiary-butyl ether	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	2 U	2 U	94.5	2 U	5.7	19.9	26.1	2.2 R1	31.4	68.6	NS	NS	2 U	2.8	852	1.2 J	4 U	53	58
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.8	3

U: Non-Detect, NS: Not Sampled

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022
Styrene	1 U	1 U	0.63 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	1 U	0.88 J	2.5	1 U	1.3	1.5	2.8	1 U	6.3	1 U	NS	NS	1 U	2.2	80.1	1 U	0.48 J	4.4	3.4
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	3 U	3.4	12.6	3 U	1.3 J	3.1	5.2	3 U	11.9	3 U	NS	NS	3 U	4.1	173	3 U	2.8 J	9.1	9.6

Location ID:	CO60-PZP001 ug/L																		
1,1,1,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dibromoethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.84 J	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	13.3 B	8.9 J	6.5 J	10 U	10.7 B	12.8	10.9	10 U	15.1	8.2 J	27.8 M5	NS	NS	NS	NS	NS	NS	NS	NS
Acrylonitrile	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	400	172	218	197	147	181	254	1 U	249	244	264 M5	318	241	201	259	168	57.2 H11c	NS	NS
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Bromomethane	1 U	1 U	1 U	1 U	4.1	3.9	1.6 CL	1 U	1.5 CL	1 U	1 M5	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Disulfide	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Carbon Tetrachloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chlorobenzene	1 U	1 U	0.56 J	1 U	1 U	1 U	1 U	1 U	0.31 J	0.48 J	0.38 JM5	NS	NS	NS	NS	NS	NS	NS	NS
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Chloromethane	1 U	1 U	1 U	1 U	1 U	3.8	1 U	1 U	1.1	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	8	7.2	7.8	6.5	5	5.8	8	1 U	7	10.1	8.7 M5	11	8.8	6.5	8	6.2	2.2 H11c	NS	NS
Iodomethane	50 U	50 U	50 U	50 U	2.1 J	50 U	50 U	50 U	50 U	50 U	50 U	1.3 JIHM5	NS	NS	NS	NS	NS	NS	NS
Methyl tertiary-butyl ether	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Methylene Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	1,620	1,700	2,470	1,540	1,310	2,100	1,590	1.8 J	1,700	1,140	9,620 M5	3,990	2,320	1,650	2,670	1,290	360 H11c	NS	NS
Styrene	63.6	14.3	35.2	34.6	4.7	15	33.9	1 U	25.9	29.9	57.5 M5	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS

U: Non-Detect, NS: Not Sampled

Parameter	6/1/2018	9/1/2018	12/1/2018	3/1/2019	6/1/2019	10/1/2019	12/1/2019	2/1/2020	5/1/2020	9/1/2020	12/1/2020	3/1/2021	6/1/2021	9/1/2021	12/1/2021	2/1/2022	6/1/2022	8/1/2022	12/1/2022	
Toluene	156	14.1	36.1	53.8	16.2	13.4	20.8	1 U	35.1	23.7	60.7 M5	113	60.5	19.2	37.8	30.9	10.1 H11c	NS	NS	
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,3-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
trans-1,4-Dichloro-2-butene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichlorofluoromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Acetate	10 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylenes	183	148	167	148	111	117	172	3 U	162	211	225 M5	269	225	164	184	133	40.1 1c	NS	NS	